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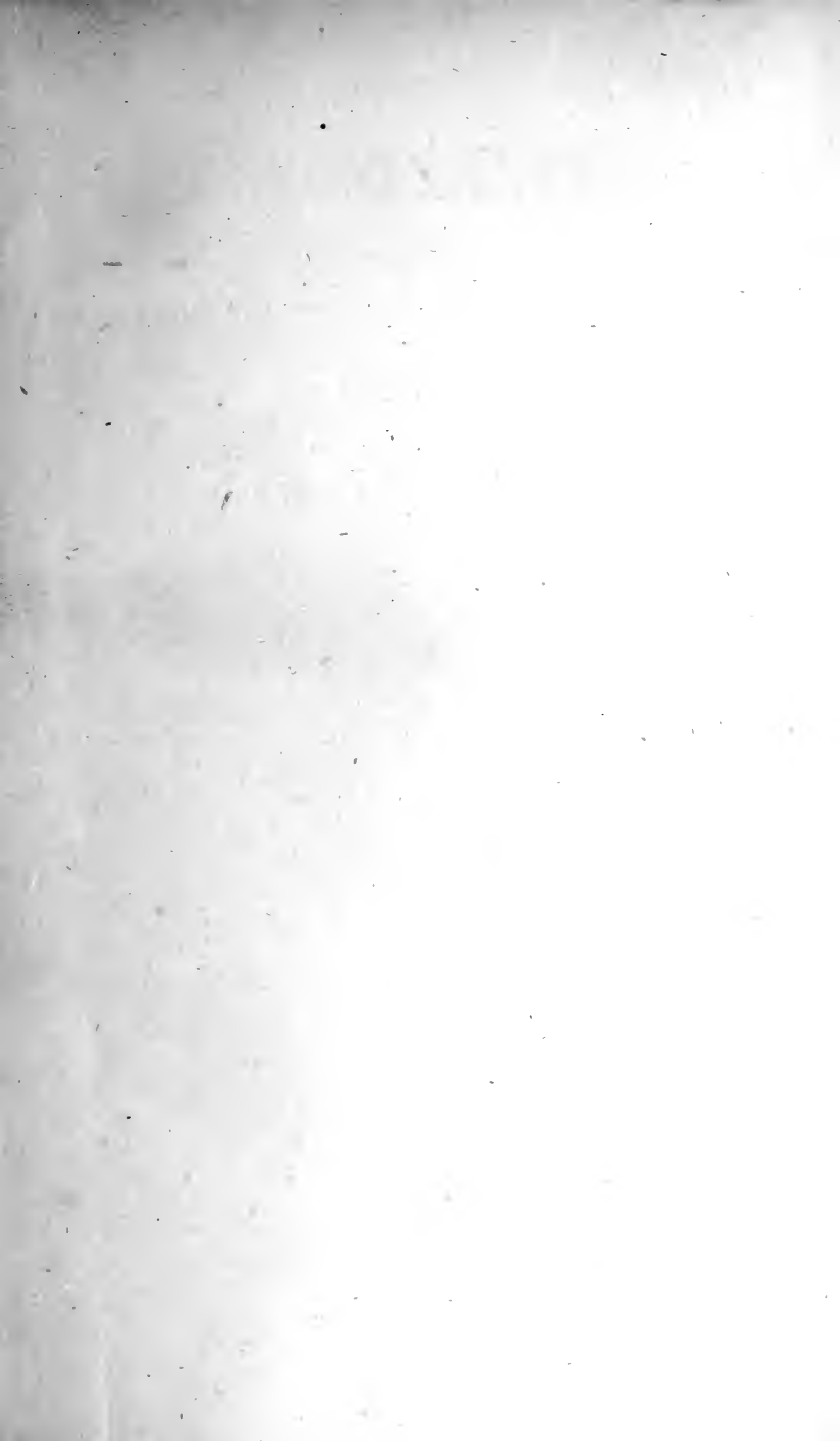
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THE  
**VETERINARIAN;**

OR,

MONTHLY JOURNAL OF VETERINARY SCIENCE,  
**FOR 1840.**

**VOL. XIII.—VOL. VIII. NEW SERIES.**

EDITED BY

**W. YOUATT,**

Veterinary Surgeon to the Zoological Society of London; late Lecturer on Veterinary Medicine  
at University College; and Corresponding Member of l'Accademia de' Lincei, Rome;

ASSISTED BY

**PROFESSOR DICK, AND MESSRS. KARKEEK AND PERCIVALL.**

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*Ars Veterinaria post medicinam secunda est.—Vegetius.*

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THE  
**VETERINARIAN.**

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ON ROARING.

*By W. PERCIVALL, Esq., M.R.C.S., and Veterinary Surgeon to  
the 1st Regiment of Life Guards.*

ROARING is no more a disease in horses than crying is in ourselves. It is but a symptom, and of itself so vague a one, that, without much careful investigation, it is often as difficult to say what disorder is producing it as to divine the cause of a person's grief.

DEFINITION.—Roaring may be defined to be, breathing with a loud or unnatural sound, under exertion of any kind.

THE SOUND or noise emitted varies under different unnatural conditions of the air-passages, and also under different degrees of exertion to which the animal may be put. With a view of elucidating the first of these assertions, I shall relate an experiment I made some years ago, touching the constriction of the windpipe. The second assertion rests upon facts known, I believe, to most experienced horsemen; viz. that roarers made to gallop very fast become whistlers; and, pushed to their utmost speed, lose even their whistling noise. These varieties in the sound or "roar" have given rise among horse-people to the epithets, "grunters," "wheezers," "whistlers," "high-blowers," "trumpeters," &c. The experiment I made is this:—

I passed a ligature of broad tape around the windpipe at about one-third of the length of the neck from the head. The tape was at first drawn only moderately tight, and the animal roared when made to trot. Next, the pipe was compressed to about half its natural caliber: the animal then whistled. In both states the sounds emitted were found *loudest in inspiration*. At last, I drew the ligature as tight as I was able to do. In a minute afterwards, the animal, after staggering a good deal, fell down, struggled violently, and suddenly throwing himself upon his side, expired in two minutes after he had fallen. I found the membrane lining the windpipe reddened, and covered with frothy mucus. The ligature had *not* completely obliterated the canal: I could still pass a crow-quill through the constricted part of it.

From this experiment we learn that a certain diminution of the caliber of the air-tube produces roaring; that further diminution or contraction of its area causes whistling; and that a degree of constriction beyond this occasions signs of suffocation, which, if not relieved, end in the extinction of vitality. A whistler, therefore, I should call an intense roarer; a wheezer, I should say, is something short of an actual roarer. Be it remembered, however, that, although I am attempting such nominal distinctions, in a pathological view they must all come under one general heading, which, by common consent, at present, we denote by the appellation of "roaring."

WHAT IS THE CAUSE OF THE SOUND?—The experiment just detailed shews, as far as it goes, that the roaring is to be ascribed to a diminished area of the passage for the air to and from the lungs; and, in truth, this will be found to be the essence of the etiology of roaring. The various collected reports that have been made from time to time on the states of the air-passages of roarsers, have shewn that all of them have produced the effect in one of three ways, viz. either by contraction of the passage or its orifice; by distortion, or deformity of it; or by obstruction within it: and this difference of causation, together with the part or place in which it exists, will serve still further to account for the various *kinds* of—or, rather, sounds emitted in—roaring.

THE KIND OR NATURE OF THE SOUND, therefore, will be found to be referrible—first, to the nature of the impediment or obstruction; secondly, to the degree or extent to which it exists; thirdly, to the situation of it. To illustrate this by example, we may expect a different sound from thickening of the membrane, or *general* diminished caliber of the passage, from what either ulceration, or ossification, or *partial* diminution or impediment, would produce; this sound will vary again, according to the degree of thickening, or contraction, or ulceration, or ossification; and, thirdly, it will undergo modification, according to the part whose lining membrane is thickened, or ulcerated, or ossified; according, in fact, as its seat happens to be the nasal chambers, the larynx, the windpipe, or the bronchial tubes. I do not mean to assert that all this can be realized in practice. Unfortunately for us, I am afraid we shall find our art not sufficiently advanced to connect the sound, in many cases, with the seat and nature of the cause; but I mean to contend that, if we would set about the investigation as men of science, all these considerations must enter into our theorification.

WHEN IS THE SOUND EMITTED?—Whenever any sudden effort or exertion is made, or any hard or fast work performed—whenever, in fact, the breathing is so disturbed that the current of air through the windpipe is rendered rapid and voluminous. So

long as the air passes in a slow and uniform stream through the pipe, as in ordinary breathing, no noise is heard nor inconvenience felt by the animal; but the moment any rush of air is made, the contraction or impediment, whatever it be, opposing this augmentation, roaring is produced by the vibration of the air against the obstructing body. So long as a horse continues at rest, or goes but at a foot's pace, or even but trots, although he be a roarer, no roaring, probably, is heard—no person would discover his imperfection: gallop him, however, and particularly up hill, and press him hard, and, as the dealers say, “you may hear him in the next parish.” Heavy draft, in harness, will have the same effect. And so will any sudden act of exertion, such as a leap, or jump, or gambol of any sort. Even fright, or sudden alarm of any kind, will elicit the noise. In fine, whatever induces vehement breathing will be apt to make the roarer disclose his imperfection.

IS IT A SOUND OF INSPIRATION OR EXPIRATION, OR OF BOTH?—Ordinarily, it is only in inspiration that the sound is heard. Under circumstances of great distress, however, as when a horse is galloped to bursting, and especially should it happen that he is one of the worst class of roarers, the sound is audible enough in expiration as well as inspiration.

THE TESTS OF ROARING suggest themselves from a knowledge of the fact, that a horse must be made to breathe with a sudden effort, or else experience a degree of labour and difficulty in drawing his breath, before the sound can be elicited. For the purpose of producing this sudden respiratory effort, our common practice is to make a feint or threat to strike the animal, which rarely fails, should he have the disorder, to call forth, involuntarily, the roar, or rather grunt, and to confirm our unfavourable suspicions. Should the animal not be a roarer, the alarm we create occasions no sound whatever in the breath. Next, we cough the horse. The protracted grunting or groaning of the cough being to an experienced ear equally characteristic, may, in conjunction with the former test, be received as quite satisfactory. I regret, however, to be compelled to add, that the absence of these summary tests will not, in all cases, bear us out in pronouncing the horse not to be a roarer. In a case of this kind, my common observation to the gentleman whose horse I may be examining, is, “I do not find your horse roars either on being struck or coughed; but you must not take this remark to imply that he is ‘perfectly sound’ in his wind. In order to satisfy yourself of that you must give him a ‘splitting gallop,’ and, if practicable, on soft ground or up hill. This is your only safeguard against minor imperfections in wind.” I have heard Mr. Sewell, the present Professor, say, “that the best trial we can subject draft-horses suspected



roarers, to, is to put them in harness, and compel them to drag heavy loads:" and I quite agree with him; it being in laborious draft in particular that the respiratory powers are called into play.

TO CONCEAL THIS IMPERFECTION, a knavish horse-dealer will, when he is shewing you a roarer, take especial care that the horse both leaves and approaches you at a gentle pace, and does not strike into the gallop until he is removed to too great a distance for you to hear the roar. He will likewise, when dismounted, intimidate you, if he can, from approaching the animal; in fact, he will practise every device rather than suffer you to put the horse fairly to the test.

DOES ROARING CONSTITUTE UNSOUNDNESS?—This is a point on which the same judge (Lord Ellenborough) has delivered two opinions; the latter upsetting the former one, and establishing roaring, for the time to come, as *unsoundness*. The first opinion was given in 1810. His lordship then said, "It has been held by very high authority, that roaring is not necessarily unsoundness; and I entirely concur in that opinion." In 1817, his lordship pronounced, in reference to a similar case, that, "if a horse be affected by any malady which renders him less serviceable for a permanency, I have no doubt that it is unsoundness. I do not go by the noise, but by the disorder." And from that time to the present, roaring has been admitted, in court, to be a species of unsoundness.

M. Huzard, jun., a French veterinarian, has penned the following sensible observations on this question:—"If roaring were an accompaniment of ordinary respiration, the evil would be discoverable at the time of purchase: but in consequence of its requiring exertion to elicit it, the purchaser who does not put the animal to that test cannot become conscious of its existence. In every instance, roaring detracts from the speed and duration of the animal's paces, and consequently depreciates him. Sometimes it renders the horse incapable of performing any (fast?) work at all. A horse is most unquestionably returnable for it."

ROARERS, THOUGH UNSOUND, STILL SERVICEABLE.—We are not to imagine that, because a horse is a roarer, he is altogether useless. There are many instances of roarers doing hackney work very well, and some of them doing their duty as hunters, with very little annoyance to their riders or distress to themselves. Indeed, to repeat what I said before, I have heard the remark more than once, from those who have hunted roarers, that "the faster they go, the less noise they make." A great deal, however, will depend on their condition. When that is hard and good, it is quite surprising what a difference it makes in the noise. Roarers are most of all objectionable as harness horses. Coach-proprietors are so fully impressed with their incapacities for the purposes they require—fast and laborious draft—that, in a general way, they refuse to purchase them at any price. The following reminis-

cences from Nimrod are at once so characteristic and rich in truth and humour, that I cannot forbear inserting them here. "I never purchased but two roarers, and they cured me of going to that market again. One nearly broke my neck at a fence, having entirely lost all his powers in the space of five fields; the other I christened 'the Bull,' for he could have been heard half-a-mile off if he got into deep ground. Notwithstanding this, I have seen two brilliant hunters that were roarers."

MARES SELDOM BECOME ROARERS, at least, in comparison with horses. This is a fact, I believe, too notorious among men of horse experience to admit of doubt; though it is one for which it appears difficult, if not impossible, to assign any satisfactory reason. However, so stands the fact.

ROARING IN MAN.—Of this, one instance only has come to my knowledge. I was out shooting one day with two friends, one of whom was quite a lad; when, as I was walking by the side of the other up a hill, I suddenly heard such a whistling behind me, that I sprang round with alarm, thinking there was a roaring, or rather a whistling, horse galloping close at my heels. My fright subsided, but surprise and curiosity took its place at finding it was my young friend who was making all this noise in his efforts in climbing the hill. On laughing and telling him he was "a regular whistler," he informed me he had, not long before, been the subject of a severe bronchitis.

PATHOLOGY OF ROARING.—This includes the investigation of the morbid and other causes on which the existence of roaring depends; and it is a part of our subject replete with interest, seeing that it is upon this knowledge that all our hopes and expectations of cure must be erected. Unless we can arrive at a thorough knowledge of the cause of the evil, we shall deceive both ourselves and our employers in attempts to remove it. To hear people talk about *the seat* and *the cause* of roaring, one would suppose that both might be included between the finger and thumb, and that it was either too mysterious ever to be developed, or was universally in one place. They are such unscientific and narrow views as this that have led people to talk about the *cure* of roaring, as if some remedy were to be discovered at once to remove the evil. Such discourse may impose upon our employers; but, surely, among ourselves, if we aspire to be thought men of science, it must be disgusting in the extreme. Unless what I am going to relate is untrue, it must be evident enough, even to unprofessional minds, that the causes of roaring are many and various, and that, consequently, the remedies cannot but be something like proportionate in number, and oftentimes extremely dissimilar.

ROARING IS NOT A DISEASE, BUT A CONSEQUENCE OF DISEASE—of catarrh, strangles, influenza, laryngitis, bronchitis: to which Hurtrel D'Arboval has added, pleurisy and peripneumony. Now, let it be observed, that these are all inflammatory diseases of the mucous membrane lining the air-passages, and that the ordinary consequence of their virulence or long continuance is

THICKENING OF THE MEMBRANE, with occasional ulceration of it; and this it is that appears to constitute in *young* horses the common cause of roaring. How many three and four-year-old horses are there passing from the dealer's or breeder's hands into stables, who, soon after their arrival therein—particularly if it should be in the spring or autumnal season—breed strangles or distemper, or else contract cold and sore throat, any of which disorders, in a severe form, settling upon the throat and windpipe, will be very apt to lay the foundation for roaring, by leaving behind them a thickened, and perhaps an ulcerated, membrane, and most likely at the part where it lines the glottis, though the same may take place within the cavity of the windpipe. There is also reason to believe that similar alterations of structure, even within the branches of the windpipe—the *bronchial* tubes—may have the same effect in kind, if not in degree. In the course of time, the thickened membrane is found to undergo still further changes: from being simply thickened, it turns opaque and white, and acquires a leathery, indurated feel and texture—organic transmutations which set all and every kind of treatment completely at defiance.

ULCERATION OF THE MEMBRANE OF THE LARYNX, particularly of that part lining the glottis, is very apt to follow an epidemic, or specific, or malignant inflammation of this membrane; and this ulceration will often assume a sort of chronic inactive form, in which state I have had reason to believe it has continued for years, or even to the end of the animal's life. Such a case of roaring, it is obvious, would require a treatment altogether different from most others.

METASTASIS.—Any inflammation about the throat or its vicinity may, by extending to or settling upon the larynx or windpipe, in the end be productive of roaring. In illustration of this, I cite the following:—

The late Mr. Coward, V.S., Royal Artillery, had, in a horse of his own, the simple operation of bleeding succeeded by extensive tumefaction and suppuration of the jugular vein; and this followed by abscess of the parotid gland, disease of the larynx, and permanent roaring.

BANDS OF COAGULABLE LYMPH effused into and running across the cavity of the windpipe constitute another source of roaring; but, I believe, a very rare one. The inflammation is the



same, and its disposition the same, as in the former case ; only instead of the lymph being effused into the interstices of the membrane, and thickening its substance, it is poured forth upon its surface, where it assumes any form chance or circumstances may happen to give it, and, in the end, becomes organized, and part of the pipe itself, or rather of the membrane.

In the veterinary museum formerly belonging to my father is a preparation in which the muscle has been displaced by the formation of a cross-band of coagulable lymph between it and the posterior part of the tube, by which the interspace is divided into two passages, one large enough to admit a walnut, the other a hazel nut. The horse it was taken from breathed with labour and exertion, and, even when but moderately exercised, roared aloud.

**OSSIFICATION OF THE LARYNX**, by which is meant the entire or partial conversion of its substance into bone, a change peculiar to aged horses, may exist either as a cause or a concomitant of roaring. The parts commonly found thus converted are the thyroid cartilages ; though the others, at a later date, may participate in the change. It seems to be the result of some chronic inflammatory action excited in the cartilages ; and this I feel inclined rather to ascribe to the injurious constraint to which the larynx is so repeatedly subjected, than to any of the causes which give rise to it in the membrane. We occasionally meet with partial, but rarely with entire, osseous conversion of the rings of the windpipe ; nor do we often see bony accretion of them one to another.

**DISTORTION OF THE LARYNX AND WINDPIPE**, there is every reason for believing, is a fruitful source of this vexatious disorder. Dissection is every day adding to the instances of it ; and when we come to meditate upon the notorious fact, that

**HARNESS-HORSES CONSTITUTE A LARGE CLASS OF ROARERS**, we shall probably regard these views as well founded. When we look around us as we pass through the streets of London, and count the numbers of fine high-spirited horses there are in carriages, waiting for hours and hours together for their masters and mistresses, and all the while reined up with their necks crooked in a form unnatural, and constrained and painful even to behold, much more to be borne, as is sufficiently manifest to any one from the continual jerks up and down of the suffering animals' heads ; and when we come to consider the constriction—nay, compression—that must all this while be exerted on the larynx, together with the forced bend that must in many take place in the upper portion of the windpipe, can we wonder that these parts should undergo distortion ? At first, it is true, the distortion is but a temporary grievance, the intervals of relaxation affording the parts, by nature highly elastic, an opportunity of recovering their shape and tone. Repeated and long-continued acts, however, of such violence gradu-

ally enfeeble the elastic powers of the cartilages and their ligaments, and the result is, permanent deformity of the larynx or windpipe, or both together.

THE TIGHT REINING-IN OF THE HEADS of young horses, for any length of time together, and particularly in subjects whose necks have not, by regular gradations of tightness of the reins, been brought to bear the constraint with comparative impunity, is a practice at all times highly censurable, and one that has too often, in times past, given us reason to date the origin of roaring from the breaking of a colt, or his first lessons in the manege. Such harsh treatment, however, is now, in all well-conducted riding-schools, I believe, pretty well abolished; leaving us no further grounds for apprehension on this score, unless it be in the case of a colt whose head is so unmeetly set on, or whose neck is so straight or short and thick, that, without a force and constraint likely to be productive of injury, there is no possibility of getting the animal's head into its "proper place."

Mr. W. H. Goodwin, veterinary surgeon to the Queen, informs me, that, during his professional avocations at St. Petersburg, his attention was especially drawn to several horses, who, by himself and others, had been declared to be roarers, in consequence of their having got rid of their complaints in the manege. These horses, it would appear, roared in consequence of distortion produced by previous unnatural flexure of the windpipe; and this distortion the Russian system of equitation—which consisted in the elevation of the head and projection of the nose—was well adapted to counteract, and, in process of time, remove.

WASTING OF THE MUSCLES OF THE LARYNX.—Some years have now elapsed since it was first discovered that the larynges of roarers occasionally presented us with the singular phenomenon of the muscles on one side being wasted away or absorbed, while, on the other, they appeared to exhibit unusual volume and redness, and strength of fibre. Since the time of discovery, every one almost has met with cases of the kind; but no person seems as yet to have given an explanation of this new piece of pathology. My view of the case is this:—

EXPLANATION OF THE ABOVE.—Since the following explanation was written, I have met with an account of a very ingenious and satisfactory experiment performed by my friend Mr. John Field, which will be related hereafter, wherein he has conclusively shewn, that this wasting of the muscles may be the effect of the deprivation of nervous influence. I must still, however, continue to think that there is another way in which the change may take place, and that is as follows:—

Horses in general, as every man in the habit of riding and driving knows, have what is called "a hard and a soft side" to their mouths; and there is no situation in which they are more likely to

contract this—should they not have it before—than in harness; for the animal is no sooner borne or reined up, than, in order to give himself as much ease as his constrained situation admits of, he inclines his head to one side, and in that position carries it, all the while bearing with the hard side of his mouth against the bridoon, and thereon reposing, for ease, almost the whole weight of his head. The effect of this on the larynx is, that while one side is compressed, and cannot act, the other is left, comparatively, at liberty; or, at least, so far unconstrained, that, by some extra exertion, the muscles on that side are enabled to perform their functions, while on the other no action can take place at all.

I had long framed this theory in my mind, when, one day perusing Mr. Youatt's Lectures in *THE VETERINARIAN*, I was not a little gratified to observe that my friend had been entertaining some such notions as my own, although he had not gone the same length in his explanation. His words are—"In the far greater number of cases there is distortion, rendering the muscles on one side useless, and, therefore, causing them to waste away."—"The wasting of the muscles, therefore, is the *effect*, and not the cause, of that which produces roaring."

Now that fashion bids us to leave our bearing-reins at home—and a very good fashion, when horses have been properly bitted, this is—we shall find, probably, some diminution in the number of these animals that become roarers.

[To be continued.]

[We exceedingly regret that the length of our Index and the pressure of other matter compel us to postpone the conclusion of this admirable essay until our next number.—Y.]

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## ON CORNS, AND THE MANAGEMENT OF THE FEET OF FRENCH HORSES.

*By* NIMROD.

*St. Pierre, Calais.*

Dear Sir,

IMPRIMIS, allow me to congratulate you on the flattering tribute which has been paid by your brethren of the veterinary profession to your talent, your zeal, and your general deportment in the important situation occupied by you. Every one to whom you are known must admit, that it is not more than your due. It is a just requital for all that you have done for the advancement of your noble profession.

In the next place, I have a word in reply to the corrective but

gentlemanlike letter of Mr. Dawson, V. S., of Boulogne, with reference to my assertion, that I neither see nor hear of corns in France. It is true, I am not likely to *see* them—allowing them to exist—because I am not in the habit of attending forges; but I repeat the assertion, that the generality of French smiths in this neighbourhood seem scarcely aware that such a disease does exist. But allowing corns to exist, even to the extent named by Mr. Dawson within his own practice, namely, to that of four out of six horses being affected by them, the case would stand thus:—as we certainly do not see four horses out of six lame in the feet in France, we must conclude that French horses *can travel sound with corns, on French shoes*.

In answer to Mr. Dawson's objection to French shoeing—that “it would not answer for horses that go the pace of our English mail and other coaches, where the feet are rendered *brittle* and *bad* from the concussion of hard roads,”—I have only to observe, that the estafette mail-horses, running from Paris to Calais, travel at the rate of ten miles an hour, shod, of course, by French smiths. And as for hard roads, those travelled by these horses are very hard and stony in summer; and they have forty miles of pavement in the journey. I must say that, amongst all the objections I have raised against French diligences, the losing of shoes on the road is not one: I have witnessed but a solitary instance.

Again; if corns are so prevalent in horses working in Boulogne, as Mr. Dawson represents them to be, is it not extraordinary that the smiths of the town should not be *au fait* in finding them—at least, that they should not look narrowly into the foot for them? I grant that the absence of the drawing-knife in a French forge is a great obstacle to a good searching of the foot; but I remember when no such thing was to be found in English forges, except, perhaps, in London and a few great towns. Thanks to your profession, they are now prevalent in most villages.

The gentleman's name is Lear, to whom I alluded as having brought four horses to France with corns, a year and a half back, but which have long since disappeared. He lives within half a mile of my house, and would feel happy in corroborating the fact. It is certainly a valuable one.

The system of French shoeing appears to me to be this:—Frog very near the ground; bars (so called by us, but neither known nor thought of here among common shoeing smiths) cut away; sole full; shoe thick at toe and turned up; thin at heel and pressing only on the crust; convex ground surface, concave foot surface; large-headed nails, *taking the principal bearing on the ground*, with their points coming out low in the crust. Now, if it be true, that corns are much more rare here than in England—which I believe to be

the case—I presume one cause to be the large-headed nails and frog, together with the shape of the shoe taking the principal pressure from off the seat of corn; whereas the English shoe, pressing upon the heel and bars, and, consequently, on the seat of corns, tends to produce them. By cutting away the bars, the French smith leaves the pressure only on the crust. But, my dear Sir, excuse my ignorance in asking, What are these bars? Are they natural or carved out of the sole by the smith? If natural, which I conclude them to be, are they sufficiently powerful to have an effect in preserving the proper form of the foot? I can only say, in all the colts' feet that I have inspected there has been little appearance of bars, but what little there has been seemed to be so situated by nature as to forbid any pressure, without the probability of producing lameness.

I put down my pen here, while I walked to the village of St. Pierre, on the Dunkirk and Paris road, to put these questions to the smith who shoes my horses, and who, from his public locality, must shoe those of all descriptions. "Do you find corns in the feet of farmers' horses which you shoe?" His answer was, "*Never.*" "Do you find them in the feet of any other description of horses?" His answer was, "*Never.*" The only doubt here is, whether or not the man knows what a corn in a horse's foot is. He appeared half offended at my doubting that fact in his presence.

I was not aware of there being an English veterinary surgeon at Boulogne, or I should have called upon him for his assistance in the following extraordinary case. I was driving a five-year old horse on the road, in July last, when all on a sudden I perceived him nod his head. On getting down, I found half the shoe of his near fore-foot was gone; but, having a perfect hoof, I was surprised at the effect it produced. Being near home at the time, I thought no more of the circumstance, merely telling my servant to have the shoe replaced on the morrow. My surprise, however, increased on his informing me, half an hour afterwards, that the horse was *in violent pain*. "Something in his foot," said I; "send for the smith instantly." The foot was well searched, but in vain. I never saw a horse more lame than this animal was for the three following days, *and from no apparent cause*. On the fourth day I sent for a French veterinary surgeon from Guines, who again searched the foot with his drawing-knife, but also in vain. He then pointed to the shoulder, but I would not hear of that, as there was nothing to indicate shoulder lameness. Ten days more elapsed, with continued lameness, and to a distressing degree, *without the least increased heat, either in foot or limb!* "Nothing for it," said I, "but *rest*, or a *bullet*." About ten days' uninterrupted rest did the business. The horse became sound, and has remained

sound ever since\*. He could scarcely bear any weight on the limb, so severe was the injury, whatever it might have been; but from what cause must remain a mystery.

One word more, with your permission. Were it not that the advantages of the in-door system of keeping horses in the summer were now universally admitted, I could produce conviction from my own stable at this time. It contains a five-year-old horse and an aged mare. The former has been two years in my stable; the latter taken from grass in July last. They both live and work alike; but how are they affected by work? The horse seldom sweats much, but if he does he dries immediately. The mare, much the stronger of the two, sweats profusely when driven or ridden fast, and is not dry under several hours.

Now, allow me to conclude with this observation on the inexhaustible subject of the foot. Imperfect feet may, no doubt, be mended by certain peculiar methods of shoeing: but the natural foot will never be injured by the concave seated shoe, properly applied, and not suffered to work into the heel. I never had a horse lamed from shoeing, nor can I recollect a single instance of lameness from corns in my own stable.

*Postscript.*—I take this opportunity of observing, that, in the last Number of the *Sporting Review*, I have commenced a series of papers, containing a short notice of every horse worthy of notice that has passed through my stables. Some curious facts will be elicited, perhaps not altogether uninteresting to the veterinary profession.

NIMROD.

## ON VETERINARY IMPROVEMENT.

*By* HENRY HALLEN, *Esq.*, *6th Inniskilling Dragoons.*

As there is now so much said relative to the examination of veterinary pupils, I cannot remain silent upon so important a subject. If, in addition to what your correspondents have already recommended, they had suggested that the examination should extend to the real practical part of the profession, viz., that of casting, and otherwise securing our patients for operations, and the actual performance of operations incidental to veterinary practice, this would have been a most important addition. A want of a thorough knowledge of these essentials very soon blasts the character of a veterinary surgeon in the estimation of men conversant with horses; and he would, consequently, be considered more at

\* As this letter is dated nearly two months back, I wish to state that the horse remains quite sound.



home behind a draper's counter than following the occupation of a veterinary surgeon.

I am rejoiced to find that the treatment of cattle is to form a part of the education of the veterinary pupil: this will, indeed, be an invaluable measure. I perfectly agree with you, Mr. Editor, in your observations on this subject, so very well expressed in your last September number; they are just and proper, and I feel confident that our worthy Professor will not fail to use his powerful interest towards the completion of your wishes. Through a lengthened period he has been a firm supporter of our profession; and, when we consider that his efforts will now be supported by such aids as Messrs. Spooner and Morton can bring, we may well flatter ourselves that a beneficial reform at head-quarters will advance.

On reading Mr. Brown's pertinent remarks upon the necessity of instruction in cattle pathology, where he considers it feasible to obtain a veterinary surgeon fully competent to discharge the duties of a lecturer upon the diseases of cattle, it flashed across my mind, that, in the person of Mr. Byron, of Ashton, near Manchester, the profession would, indeed, find an invaluable member; but I am fearful that he would not be induced to accept of the appointment, as he is too fully employed. Both he and Mr. Hollingsworth, of Manchester, are carrying on an immense practice, very much to the satisfaction of the extensive cow-keepers in their neighbourhood: their practice amongst horses is also very considerable; they are, indeed, both first-rate practical men in every department of their profession.

Your allusions as to the association between the medical man and veterinary surgeon, I cannot help admiring; but, I am grieved to add, very much requires to be done before we can aspire to an equality with the members of the former profession. The world will not take us at our own valuation. We must gain their esteem by a course of undeviating honour and rectitude; and until a great majority of us exemplify this character, our rank in society will be very little better than the farrier and cow-leech of olden times. In the midst of a great deal which is objectionable in this particular, I have met with members of the veterinary profession whose friendship I hope ever to retain, and from whose professional attainments I have gained most valuable information; and I have invariably found these men, and only such men as these, highly respected; nay, equally so with the medical man.

Wishing your invaluable Periodical every success (as it is now conducted),

I remain, Sir, your's, &c.

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## ON STRYCHNIA.

*By Mr. W. J. T. MORTON, Lecturer on Veterinary Materia Medica.*

THE action of this alkaloid being at the present time a subject which appears to interest the members of the veterinary profession, perhaps the following experiment will be acceptable to them, as illustrative of its effects upon the animal economy.

Although highly instructive, from the influence of the agent having been so beautifully shewn, yet, I confess, I have no wish to repeat the experiment. The tortures which the animal experienced before death would deter me. With the exception of hydrocyanic acid, no poison that I have yet tried appears to be so energetic and appalling in its operation as this.

Ten grains of strychnia, diffused in water, were given to a young and healthy ass. In ten minutes the animal appeared agitated, and rigors came on. These indications of the action of the poison were followed by a quickening of the pulse and the breathing, a loss of voluntary power, and this succeeded by involuntary convulsive movements.

In fifteen minutes, tetanic symptoms began to be apparent. The jaws were opened, but with some difficulty; the muscles were rigid, and, when the head was elevated, the membrana nictitans was forced over the eye. The circulation was hurried, and the respiration laborious. These symptoms continued for a time, and gradually increased in urgency, when they passed off, and left the animal in a state of partial unconsciousness. The act of progression was awkwardly performed, and he staggered about in his efforts to prevent himself from falling.

At the termination of about the 20th minute, on elevating the head, he tumbled over backwards, and lay in a violent tetanic fit. All the muscles of the body appeared to be in a state of powerful contraction. The limbs were extended and forced wide apart—the neck bent backwards—the tail straightened and tremulous—the ears erect—the jaws firmly closed—and the eyes forcibly drawn within their orbits. The respiration became highly laboured, and the heart's action very much increased. The violence of the paroxysm continued for two or three minutes, and then followed a remission of this state of spasm. On raising the animal, he stood with extreme difficulty. The fore legs were placed wide apart and the hinder ones extended, so that he might gain mechanical support from the peculiarity of his position.

After this he became enfeebled and very irritable. Any sudden



noise, or the least touch, caused him to start, and threatened a recurrence of the tetanic spasm. This took place on again elevating the head, when the symptoms became more violent than ever.

This dreadful excitation passing over, the animal's sufferings were thought, and hoped, to have terminated. The heart's action had apparently ceased, and the respiration was imperceptible; but, after lying for a few minutes in this state of extreme exhaustion, sensibility was again manifested, and, on placing him on his legs, he tottered along as if unconscious of what he was doing or where he was going. The slightest touch or noise caused a return of the paroxysms; the tail became partially erected and tremulous; the jaws fixed; the eyes retracted, and pressure on the facial nerve caused spasmodic twitchings of the muscles of the face, while the respiration and circulation were much hurried. He maintained a standing posture, as well as he could, for some minutes, when the muscles of the neck began again to contract, drawing the cervical column towards the withers, and he fell over backwards. For a short time he endured the most violent tetanic spasm imaginable; but it was the last: he died in a state of complete asphyxia, thirty-five minutes after the exhibition of the poison.

*Post-mortem appearances.*—The stomach was perfectly healthy, but an inflammatory blush pervaded the intestines. The lungs were gorged with blood. On laying open the spinal canal, a mass of disease presented itself. The vertebral veins were much congested, and the theca vertebralis highly inflamed. On cutting through the spinal cord, the motor division was perceived to be darker-coloured than the rest, and the nerves taking their origin from it were inflamed.

Unfortunately, the brain was not examined, although the symptoms indicated so much cerebral derangement, the head being wanted for anatomical purposes. Thus the experiment was incomplete. The carcass quickly underwent decomposition, and the fœtor emitted from it was almost intolerable.

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## ON VERTIGO AND PARALYSIS.

*By Mr. C. SNEWING, V.S., Rugby.*

IN my last paper I made use of the word vertigo, in allusion to a disease which I wished to see placed upon record. I have always understood that word as being merely figurative of *cerebral derangement*, nor can I see any grounds for authors having adopted the words Vertigo, Lethargy, &c., as descriptive of *particular diseases*. Some authors have been not a little careless on this point,

and have occasionally puzzled the junior student, and a little startled and displeased the more experienced practitioner.

I may be permitted to give a few illustrations of this. Mr. Blaine, in the index to his truly valuable "Outlines," directs us, under the head Vertigo, to a page where he is treating of "symptomatic phrenitis." He very properly regards it as a symptom of disease, and nothing more.

Our classical as well as scientific writer, Mr. Percivall, uniformly refers these external manifestations to "particular morbid states of the brain and its associated organs."

The talented author of that standard work "The Horse" glides over "the stream of nervous affections," without mention of it as a distinct *disease*. The author of the "revised" work of Clater, in which I fancy I can trace the graphic pen of my friend "The Horse's" owner, principally, or I believe only, mentions it under the head "megrims, or a sudden congestion of blood in the vessels of the brain."

Mr. White speaks of it as the effect of "water in the cranial cavity," "congestion of the brain," or as being connected with over-distention of the stomach and bowels. M. Ollivier, M.V., in a case which he sent to the *Journal Vet. du Midi*, speaks of vertigo as being symptomatic of cerebral disturbance and gastric derangement.

On the other hand, all those pilfering writers with which the press has lately teemed, strangely confound the mere *symptoms* of disease with *the actual morbid state of the organ*. Rydge, who in many respects deserves to be better associated, is flagrantly guilty of this in his "Manual," and has either the carelessness or the ignorance to confound megrims with epilepsy. After attempting to depreciate the opinions of others respecting its nature, he purloins a passage from the author whom he abuses, gives that author's opinion as to the treatment of the disease, and then, with some tact, leaves the subject altogether.

I must not, however, include in my censure that inestimable writer, who has, in the last volume of THE VETERINARIAN, introduced a case which he entitles "Vertigo in a Stanley Crane;" for he has this excuse (and a valid one it is), that the patient got well under his treatment, and he was, consequently, unable to point out the precise morbid affection of the brain which was the cause of the vertigo.

On the whole, we must be led to regard vertigo, lethargy, &c., as only the manifestation of impaired function of the brain, occasioned either by direct organic lesion, or by sympathetic influence.

Craving pardon for these not quite inappropriate observations, I beg to communicate the record of a disease which occurred in

my practice to a yearling (off) filly. Nothing new, perhaps, will be recognized in the train of symptoms, which very much resembled the commencement of palsy of the hind quarters in a very mild form. She knuckled in her hind pasterns, and there was a crackling noise heard in the joints. To this succeeded a slight degree of immobility, and want of steadiness in walking. After the lapse of three or four days, the off-fore-leg became involved, and the appetite began to be slightly impaired.

On first seeing my patient, I recognized by her gait some paralytic affection. I marked the unsteady movements—the partial withdrawal of nervous power from the hind quarters—the peculiar dragging movements of the hind and off fore legs—the comatose state into which the animal sunk after exertion, and the unnatural position in which she would then often stand—the unusual dilatation of the pupils—the general shining, glassy appearance of the eyes, and the evident partial blindness; all these confirmed the correctness of my opinion.

TREATMENT. *September 23d*, 1839.—I abstracted blood to the amount of six quarts from the right jugular vein—inserted a seton on each side of the poll—applied the turpentine liniment over the dorsal and lumbar regions—and proceeded to give an aloetic purge in combination with one drachm of calomel. This having done its duty, I commenced with the medicine on which I placed my greatest confidence, the powdered nux vomica in combination with the hydriodate of potassa and calomel, according to the following formula :—

R.	Pulv. nucis vomicæ .....	3j
	Hydriod. potassæ .....	gr. x
	Hydr. chlor. ....	ʒj
	Camphoræ .....	3j
	Pulv. gent. ....	3ij

Make into a ball to be given daily.

*28th*.—No marked alteration; appetite tolerably good, fæces in their natural state.

R.	Pulv. nucis vomica .....	ʒiiss
	Hydriod. potassæ .....	gr. xv
	Potassæ tart. ant.....	3j
	Camphoræ .....	3j
	Pulv. gent. ....	3ij

Make into a ball to be given daily.

*October 3d*.—The amendment very great; the gait steady; countenance more animated, and less degree of somnolency: appetite improved, and excretions natural.

R.	Pulv. nucis vomicæ.....	3ij
	Hydriod. potassæ .....	gr. xx
	Pulv. gent. ....	3ij
	Pulv. zingib. rad. ....	3j

Make into a ball to be given daily.

7th.—Apparently nearly well. The owner, anxious to send the filly “a-field.” Withdraw the setons, omit the medicine, and apply an extensive cerate-charge over the loins and back, rendered more stimulating by the addition of cantharides, and covered with flocks of wool.

November 15th.—There still remains some weakness, and the owner, impressed with the idea that it is from lying on the cold ground, has housed my patient, and sent for some strengthening medicine.

R.	Pulv. nux vomicæ .....	3vi
	Pulv. gent.....	3iss
	Pulv. baccæ piment. ....	3vi
	Pulv. zingib. ....	3ij
	Lyttæ pulv.....	gr. xxiv

Beat into a mass with treacle, divide into six balls, and give one every alternate day.

26th.—Apparently quite well, and continues so up to this date.

*Remarks.*—I commenced with depletion, fearing the remains of some pre-existing inflammatory attack, and gave calomel and iodine, with a view of attempting the removal of any deposit which might by its pressure have been the cause of disturbance to the sensorium. My patient was in remarkably good condition, and, what is singular, never once during the disease evinced any tendency to costiveness of the bowels.

## ON THE PATENT HORSE SANDAL.

*By* W. PERCIVALL, *Esq.*, *First Life Guards.*

HAVING reason to believe that my Sandal has—with some at least—got into undeserved disrepute from a fault (though perhaps a pardonable one) of their own, and not from any fault of the shoe, I beg to trouble you with a few observations thereon; which, however, I shall preface with an extract of a letter recently received from my cousin, Charles Percivall, V.S. Royal Artillery.

He tells me that “on the 11th November he met the Surrey fox-hounds at Hamsey Green, where they soon found, and, after changing foxes once or twice, had, altogether, a long run. Not

far from Coulsden church, in the after part of the run, he lost a fore shoe, or rather missed a shoe, in galloping across a turnip field. He immediately took his horse into a lane hard by, and dismounted, and got out his sandal, which is always appended in a bag to his saddle. Owing to the fidgettiness and anxiety of his horse to get after the hounds again (for they were still running), he had some trouble to accomplish the secure buckling on of the sandal: however, with the assistance of a boy to hold his horse, he did buckle it fast on, and then rode after the hounds, and finished his hunt, and rode nineteen miles home afterwards, and all without any moving or disarrangement of the sandal, or the slightest injury to his horse's foot.

Had my cousin been a novice or a bungler at putting the sandal on, he could not have accomplished any thing with it: before his horse had made three strides, the probability is the sandal would have been cast into the air. But, in order to guard against any such failure, in the first place, prior to taking the sandal with him at all, he took care to have it properly fitted by the farrier to his horse's foot at the time the fore shoes were off for the purpose of shoeing; and, in the second place, he was well aware, in putting it on, that, unless each strap was drawn quite tight, and the pads adjusted properly, before either strap was buckled, the sandal must share the fate of any loosely-nailed shoe, viz., be thrown off the foot.

If there are any who suppose I have been silly or hardy enough to propose the sandal as a *permanent* shoe, I can only repeat, for the hundredth time, that I never offered it as any thing more than a *temporary* substitute for the nailed shoe; and from its lightness, portability, and convenience, found it the very thing I had been for years seeking for to take hunting with me. I am quite conscious it will never answer its intended purpose in the hands of those who are either uninformed or uncareful how they put it and buckle it on; although this is an operation effected in a couple of minutes by any one who chooses to understand it.

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## ON HEPATITIS IN THE OX.

*By Mr. S. BROWN, Melton Mowbray.*

AS the ox is an animal which has a gall-bladder, no doubt can be entertained as to his liver being subject to occasional inflammatory attacks; and, when we consider the occasional hardships that he endures, and the sudden changes in the quantity and quality of his food, we may, in some measure, account for the frequency with

which we have to treat cases of hepatitis in neat cattle. It occurs at all seasons of the year, and, when met with in the straw-yard, it generally happens to a bullock or cow which was doing better than its fellows. It is of most frequent occurrence during the last spring, the summer, and first autumnal months.

Much depends upon the susceptibility of the animal; but warmth, fatigue, and large quantities of food of a bad or indigestible quality, may be regarded as some of the predisposing causes of this disease. Cold and wet may also be considered, and with some degree of plausibility, exciting causes; as the complaint is frequently met with after neat cattle have been turned out of the shed or straw-yard in cold rainy weather. At these times they are seen standing with their heads turned from the wind, and hanging down; their backs up, and the animals shivering with cold.

The effect upon the bloodvessels may be, that the capillaries become contracted, and the blood has to traverse a shorter circulation in the deep-seated ones. The liver may become engorged with blood, and inflammation of that organ be the ultimate result.

Although the production of disorders among animals may mainly depend upon atmospherical agency, as it is much implicated both in predisposition and excitability; nevertheless, too luxuriant pastures are, perhaps, the most fruitful sources of hepatic attacks. During the early part of a genial spring, while the grass remains succulent and retains its laxative qualities, cases of hepatitis are not of frequent occurrence; but they become prevalent as the season advances. As vegetation progresses, the herbage acquires an exuberant supply of stimulating nutriment, which may require greater powers of assimilation, and, in order to accomplish this, the digestive organs are called into an increased action.

As the liver is principally involved in chylication, and in the expulsion of the excrementitious parts of the food, any additional quantity of nutriment taken into the stomachs requires a corresponding supply of bile to propel it through the alimentary canal; and, in order to furnish the intestines with that fluid of a proper quantity and quality, an increased biliary secretion must, necessarily, be called into action, which may disturb the circulation of the hepatic vessels, and excite a sub-acute inflammatory action in the parenchymatous substance of the liver. The venous blood may, at such times, be of too rich a quality, which may induce congestion in the penicilli, and derangement of function and inflammation of the organ may become a necessary consequence.

In the milch-cow, the first symptom of this malady is a slight diminution in the usual quantity of milk, and, after it has stood the proper time in the lead, and drawn from the cream, the latter frequently presents a ropy appearance, and has a saltish taste. As



the disease progresses, the countenance is depressed—the appetite impaired—the animal becomes inactive, and has generally a stiffened staggering gait, or a halting on one or more of the limbs. The eyes are dull, and, occasionally, the transparent cornea becomes opaque; the nose is alternately dry and moist—the mucous membranes, the nasal secretion, and the skin, tinged yellow. In protracted cases, when the patient begins to recover, a yellow scurf rises from the skin which gives the hair the appearance of having been dusted with turmeric. Rumination is partially performed, or altogether suspended. The secretion of milk is extremely limited, and inflammation usually commences in one or more quarters of the bag. Occasionally tumefactions appear in different parts of the body, which afterwards burst, and discharge an ill-conditioned matter.

In some cases the respiration is, at first, frequent, which is accompanied with a short sore cough; but, in the majority of cases, it is not much disturbed. The bowels are generally constipated, often obstinately so, and small quantities of the alvine excretions are voided, covered with a mixture of vitiated bile and mucus, which has somewhat the appearance of tar; but, after the lapse of several days, diarrhœa occasionally supervenes. Some cases occur in which the animal is suddenly attacked by violent purging; the alvine ejections are voided in large quantities, of a very dark colour, and are extremely fœtid. During the progress of the disorder the pulse varies much in frequency, but its tone is generally soft and feeble.

When an organ of so much importance in the animal economy as the liver becomes diseased, it must necessarily be accompanied by a long train of symptoms; and every action and function of animal life becomes involved in derangement when the power of separating the bile from the blood is lost. The yellow tinge which characterizes hepatitis may be regarded as the effect of the liver having lost its discerning power, and not that of regurgitation and the absorption of bile; for, when this viscus is inflamed, it is either inactive, or secretes bile of a vitiated quality, which circumstance not only accounts for the yellow tinge being scarcely perceptible in an early stage of the complaint, but, also, for its becoming more and more apparent until the inflammatory action is subdued, and the organ restored to a healthy state both of action and function.

By the suspension of rumination the food is retained in the stomachs, and is sufficiently indicative of the bile being unfit for the purpose of chylication. The constipated state of the bowels, also, shews an impairment in the purgative qualities.

As considerable intestinal irritation accompanies those cases in which this disease first shews itself by violent purging, it may be the effect of too large a supply of bile, or that of too acrid a qua-

lity ; either of which may excite inflammation in the mucous coat of the bowels, or increase the peristaltic motion. Although diarrhœa and constipation are the effect of a morbid biliary secretion, they may and do originate from other causes ; but the practised eye will have but little difficulty in deciding from the colour of the excrement the nature of the ailment.

The successful treatment of a disorder in which every action and function of animal life is apparently deranged would seem to require a great variety of medicinal agents : but so far as my limited experience has enabled me to make practical observation, in cases of acute inflammation of the liver calomel is both an active and efficient remedy. Of course, it requires considerable professional tact to apportion the dose in the different stages of the complaint ; but the practical knowledge of every veterinarian will suggest the proper quantity. In medically treating the maladies of neat cattle and sheep, it is necessary to husband the natural resources of the animal economy ; and, whether we intend to evacuate the calomel by a cathartic, or to retain it in the system, it answers the purpose best when it is given to these animals combined with opium and aromatics.

If we are early in attendance, little more is required than to abstract a small quantity of blood and to administer a full dose of calomel, which may be mixed in a little gruel, or compounded with linseed meal, and as much water added as will make it of sufficient consistence to suspend the medicine : twelve hours afterwards a brisk cathartic may be given. Gum-gamboge, combined with the sulphate of magnesia, and dissolved in the hot infusion of chamomile, answer the purpose.

If the patient should be in the straw yard, it is, generally speaking, better to omit the bleeding ; and in these cases an oily mixture is preferable to the saline purgative.

If the animal should have been ill for several days, and drenched with yeast, goose-grease, chicken's guts, &c. &c., or the warm comfortable drinks of the old school, the case is generally one of a more serious nature. The strength of the patient is considerably reduced, the bowels are obstinately constipated, and a larger quantity of the submuriate of mercury is required to restore the liver to the performance of its healthy action. It may then be necessary to introduce it into the system cautiously and in small doses, which may be given every twelve hours, until the excrement is voided of the natural colour and consistence. When that is accomplished, small doses of Epsom salts, nitre, and emetic tartar may be dissolved in the infusion of chamomile, and given once or twice a-day, until the bowels are freely acted upon.

If the appetite should be considerably impaired, and the patient



much debilitated, the above medicines may be combined with small doses of aromatics, vegetable tonics, and the liquor ammoniæ acetatis, which materially assist the recovery of the animal.

If the yellow tinge remains apparent, when diarrhœa supervenes, the expulsion of the fæces is usually accompanied by considerable straining. In this stage of the complaint equal parts of calomel and opium, given daily in small doses, often succeed; or, if those medicaments should not arrest the purging, the compound kino powder forms a useful adjunct. Good wheat-flour gruel may be substituted for water, and sweet hay is, perhaps, the best kind of food. If the purging should not cease when the yellow tinge begins to disappear and the appetite to return, absorbents and astringents are occasionally of some service.

When the disease is at first recognized by violent purging, one proportion of calomel and two of opium may be given in very small doses, varying the intervals (as circumstances may require) from two to twelve hours, until relief is afforded: but copious draughts made thick with gum acacia and arrow root, or other mucilaginous fluids, are also beneficial; and clysters composed of starch and opium are of much service in allaying the irritation of the rectum, which often accompanies the expulsion of these bilious and fetid alvine excretions.

During the treatment of the disease the patient should be kept under cover and have warm water to drink, and, when rumination and the sensation of hunger return, it is best to avoid all kinds of food of a highly nutritious quality, and feed sparingly with grass or hay. It is also necessary to caution the owner of the convalescent animal not to turn it into too luxuriant a pasture, as a bare one is, perhaps, the best tonic.

Hepatitis has various terminations, but, of course, the most desirable one is resolution, as every other, except gangrene, constitutes a variety of the chronic disease, of which every year's practice must afford a considerable number of cases to those veterinarians who attend to the diseases of neat cattle. Many of those ill-thriven beasts which are said by some graziers to have the dry rot, and by others are called dunces, labour under either structural or functional derangement of the liver.

In chronic hepatitis, the beast is commonly low in flesh—hide-bound—the skin slightly tinged with yellow, from which a scurf rises that gives the hair a staring dirty appearance—the eyes dull, and considerably sunk in the orbits—the ears drooping—the countenance altogether dejected—the animal feeds sparingly, is disinclined to walk, and when made to move, the action is listlessly performed. Although the animal is feeding in a succulent pasture, the bowels are often confined and the excrement is voided stiff and glazed,

probably with dark-coloured bile: but in other cases diarrhœa commences. In either state of the bowels neat cattle will often linger on a life of misery for many months until they are rendered useless by a disease which, probably, might have been relieved if an active treatment had been adopted early enough to have arrested the morbid action.

In the confined state of the bowels, many of these dunces admit of a perfect cure. Alterative doses of calomel, carried off by an oily mixture, often succeed; but cases both of dry rot and diarrhœa occur, in which the disease will only yield to the influence of calomel, so as to enable the animals to be got into a better state of condition as regards their preparation for the butcher. Many graziers annually endure serious losses from chronic inflammation of the liver. This may arise from various causes, as from inattention, want of confidence in the skill of the veterinarian, or from their being credulous as to the effect of some boasted specific remedy.

The terminations of acute inflammation of the liver in neat cattle are morbid smallness of that gland, or a contraction of substance, which is of a dark purple colour. The gall-bladder is often found distended with turbid bile of a pale yellow hue. The effect of this variety of termination is chronic diarrhœa, and the alvine excretions are usually of a light colour. Occasionally the liver is found indurated, dry, fragile, and of a red clay colour; in which case the animal is excessively yellow, the bowels are unusually constipated, and the excrement resembles, both in colour and consistence, that of a horse living on hay that has undergone too high a degree of fermentation. In morbid enlargement of the liver, that viscus presents various alterations of structure, as a spongy substance, thickened and firm texture, and scirrhusities which often contain curdy pus. Occasionally ascites accompanies this termination, which may originate from contiguity of surface; as the peritoneum is frequently found thickened and slightly inflamed.

It is seldom that neat cattle die from acute hepatitis; and when that is the case, it commonly happens to one of those animals in which the disorder was at first recognized by violent purging. The liver is then found engorged with blood and the mucous coat of the bowels much inflamed.

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## CASE OF PARAPLEGIA, PRODUCED BY A LARGE TUMOUR PRESSING ON THE LUMBAR AND SACRAL NERVES.

*By Mr. W. C. SPOONER, Southampton.*

IN April last, I was requested to attend at Broadlands on Muscat, a grey Arabian stallion, belonging to Viscount Palmerston. He was an aged horse, about fourteen years old; had been many years in this country, and several years in the possession of his lordship, during which time he had been used as a stallion. He had been attacked two days before I saw him with symptoms of colic, for which he had been bled, and had some medicine, and afterwards a strong dose of physic. When I saw him, he appeared suffering, in some measure, from the too violent action of the physic. The symptoms were a total loss of appetite—a somewhat quickened but very feeble pulse—fæces watery, and great irritability manifested previous to their expulsion—extremities rather cold, and general aspect heavy and dull. My treatment consisted in the administration of gentian, opium, and chalk, in thick gruel, with spt. nit. ether.; and, under this treatment, occasionally varied, he soon began to amend, and in the course of five or six days he was convalescent.

About six weeks afterwards, I was requested to see Muscat again. He had fed well since his last attack, and had appeared generally well; except that for the last fortnight he had manifested considerable weakness in the hind-quarters. On his being led out he somewhat reeled in his walk, and, when made to trot, he did not advance his legs under his body as he ought to have done. His weakness was most perceptible in turning. He staled freely and without difficulty, and his urine presented the usual appearance.

I forgot to mention, that, about a fortnight before this last visit, a mare was brought to him, when he evinced as much desire as ever; mounted her, but could not advance far enough to effect a penetration. It was this that first directed observation to the lumbar weakness; and, on the circumstance being mentioned to me, I thought it possible that the horse might have failed from weakness, and, perhaps, injured the muscles of the loins or ligaments of the spine in making the attempt. With this idea, I prescribed mineral and vegetable tonics, to be administered internally for some time, and a vesicating liniment to be applied to the loins, and repeated from time to time. This treatment was continued during a few weeks, and the horse certainly appeared stronger and better, but still his action was not as we could wish. In the course of

another month his action appeared as bad as ever, and although he seemed very lively on being first led out, he could not fairly bring his hind legs under him. It was evident also, that, although he preserved his general flesh, his glutei muscles wasted perceptibly, and particularly on the near side, the quarter that had been all along the worst. His hind legs too, particularly the near one, were somewhat swollen, the enlargement being œdematous.

I began to form a very unfavourable opinion of my patient. Either the spinal cord or its nerves must be affected, for the symptoms were those of paraplegia. However, I continued the stimulating application to the loins, and in addition to the tonics gave mild diuretics to relieve the œdema of the legs: also not knowing exactly how far the urinary passages were involved, I administered, for the space of a week, moderate but daily doses of balsam of capivi.

Another month elapsed, and Muscat was no better; and in addition to his former symptoms he was now unable to retain his urine; it dropped continually from him as fast as it was secreted. It now appeared to me that the nerves supplying the bladder were involved, and the case seemed altogether hopeless. About this time, with a view of ascertaining a little more information respecting this singular case, I passed my hand up the rectum, and, about twelve inches from the anus, I could distinctly feel a hard tumour of considerable size adhering closely to the spine, and situated mostly towards its left side.

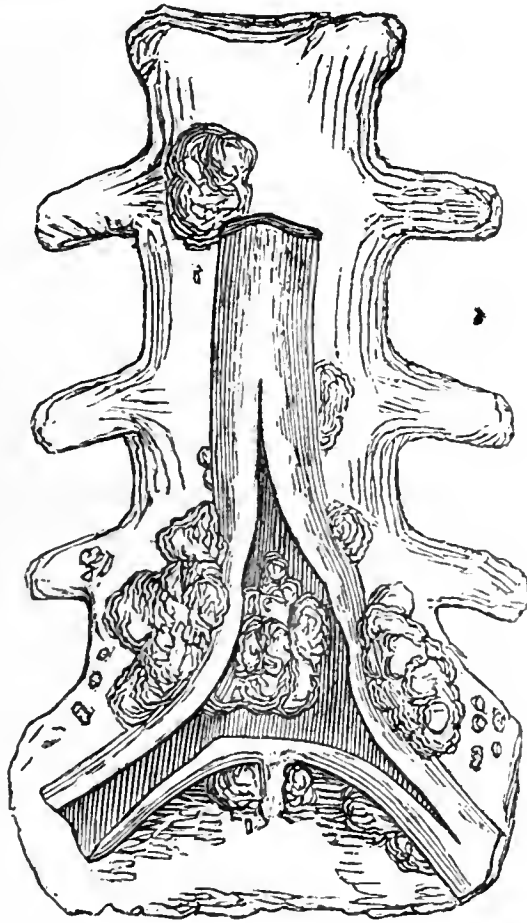
The mystery was now, in a great measure, unravelled. This tumour, in all probability, must have pressed on the lumbar and sacral nerves, and, as it increased, the symptoms became more complicated and more aggravated. I now recommended the horse to be destroyed, which, after some weeks' delay, during which the symptoms became still worse, was accordingly done, his lordship's sanction having been obtained.

I should have said, that, at the earlier part of the illness, there was no pain evinced on pressing the loins; towards a later period of its history, however, considerable tenderness was evinced, and, after lying down, he experienced much difficulty in rising.

I have given a general description of the symptoms, as well as the treatment employed; there were more minute variations of the former, and also various particulars of the latter, which it is unnecessary to detail.

A note was sent to me, requesting my attendance on the following day, when the horse was to be killed; but, unfortunately, I was at a considerable distance, and did not receive the communication until several days afterwards. A friend of mine, Mr. Yarnold, a surgeon residing at Romsey, and devoted to the pursuit of medical science, superintended the dissection, and favoured me with the

accompanying drawing, which he roughly took on the spot, and which will serve to give a general idea of the relative size and situation of the tumour. Mr. Y. was told that I expected to find an enlargement adhering to the spine, near the loins, but he was very vaguely made acquainted with the symptoms manifested.



The drawing shews a large tumour closely adhering to the last lumbar and first sacral vertebræ. It was of a very dark (nearly black) colour, and somewhat like a gland in appearance, several pounds in weight, and occupying a space as large as two human hands. It had so pressed upon the posterior cava and iliac veins, that their external coats were altogether absorbed, the serous only being left. The vein had considerably dilated laterally, but its vertical diameter was very much diminished, so that the mean caliber of the vein was lessened, and partial obstruction must have taken place, which would account, in some measure, for the œdematous legs. The arteries and nerves seemed altogether buried in this mass of substance, and the latter must have been injuriously pressed upon; and when we consider that the last lumbar and first sacral nerves mainly contribute to the formation of the sciatic nerve which principally supplies the muscles of the posterior extremity, we shall be at no loss to understand the impaired action of the hind quarters. It will be seen that the two iliac veins, together with part of the vena cava, are cut open, and exhibit the tumour as it were within them; the only difference between the tumour

there and elsewhere being, that in the former situation it presented the shining appearance of the inner coat of the vein, and in the other was covered with a membrane of its own not shining. It will be seen by the sketch, that there are several small tumours in the neighbourhood, and these were found in a diminutive form in nearly every muscle of the body. There was one, however, about the size of a small egg, that could be felt above the elbow, and this had been there a long time, ever since he had been in his lordship's possession, and the grooms used to say that it was a pistol shot. From this circumstance, however, it would appear that the disease must have been coming on for a very long period.

N.B.—Natives of Arabia are, I believe, particularly subject to hard black tumours, which penetrate often to the bone. Can this disease, in an Arabian horse, be of a similar nature?

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## STRYCHNIA.

*By Mr. W. YOUATT.*

It may not be quite uninteresting to our readers to know the result of one of our experiments with the strychnia. A large owl—the great-eared owl—was observed on August the 16th, of the present year, to have amaurosis in both eyes. It was thought to be a fair experiment for the strychnia, and one-eighth of a grain was given morning and night in a bit of meat. The quantity was gradually increased until the 25th of September, when each dose amounted to one-third of a grain; and this we had continued until November the 2d, the bird retaining his full condition—the appetite not impaired, and, although no benefit seemed to be derived, yet the patient evidently not suffering from the exhibition of this fearful quantity.

This was continued until November the 21st, no amendment being perceived, but, on the contrary, a considerable spasmodic, nodding motion of the head having commenced, and which, with some slight remissions, continued through the day. The medicine was given as before.

26th.—The spasmodic motion has somewhat increased, but there is not the slightest return of sight. More than three months have now passed since we began the exhibition of the strychnia. Such a case is a fair subject for experiment. We will even add to this strange quantity, and give three-fourths of a grain daily.



*December 4th.*—The spasmodic motion of the head has nearly ceased. The bird feeds well, and its general health does not appear to be in the slightest degree affected. Continue treatment.

*11th.*—No change. Give half a grain morning and night.

*16th.*—This enormous dose makes no impression upon him. Continue medicine.

*20th.*—No change. Give two-thirds of a grain at each dose. The medicine was administered, and we passed on to other patients; but on our return, not half an hour afterwards, we found that his bold erect position was, for the first time, changed. He was crouching on his chest, but with the head erect, and fixed, as it were, by some tetanic spasm, with a slight convulsive motion of the wings. We found that the neck was stiffened—the wings moved with difficulty, and the claws were firmly clenched. We contrived to get down two drachms of our aperient mixture,—castor oil, and syrups of buckthorn and white poppies,—but in an hour afterwards he was dead. Being a beautiful specimen, he was sent to the Museum.

This was from first to last a case of *genuine amaurosis*—a total loss of sight, unattended by any apparent local or constitutional cause. The pupil was somewhat dilated compared with that of a companion in the same cage, and presented all the clear shining blackness of a healthy eye. I used to fancy that it was sometimes a little more dilated than at others. It was not accompanied, as I have already said, by any impairment of the digestive function, for the bird was almost as fat as a pullet. I could have wished to have had the opportunity of dissecting the head, but it was too fine a bird to be taken from the Museum.

I am not aware that the power of the strychnine has ever been tried on this disease in the human being, or on our patients; but I do think that this will be allowed to have been a legitimate experiment, considering how probable it is that in many cases it depends on some particular affection or disease of the optic nerve and retina, or of the fifth nerve.

The most extraordinary thing about the case is the immense quantity of this poison that was administered—no less than 95 grains, or  $4\frac{1}{2}$  scruples. Even half a grain, morning and night, seemed to make no impression.

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## THE VETERINARIAN, JANUARY 1, 1840.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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WE have received, within the last month, no fewer than three letters from veterinary surgeons, bearing on nearly the same point, and expressing their dissatisfaction at the injury which the present regulations respecting the residence of pupils at the Veterinary College are doing them. We take one as a sample of the rest.

“Are not the regulations with regard to the stay of the pupils at the Veterinary College very objectionable, and calculated to do the profession a great deal of injury? I am at the present moment an illustration of this hardship. I had a youth all but bound to serve me three years, and he was to pay me a very considerable fee; but, while the arrangements were making, the father heard that the boy would have to stop at the College, after his apprenticeship to me, just as long as if he was not bound to me, or to any surgeon at all. He immediately came to me and said, ‘I shall not send my son to you.’ ‘How is that, Mr. ——?’ I replied. ‘Why, I find that it would only be a loss of time and money, for, after he leaves you, he will have to stop with them just as long as a young man that never saw a horse in his life.’

“Now, sir, I regard this as not intended to be so, but a flagrant insult on me, and on the whole body of practitioners. We take our apprentice—we keep him three years; but, in the estimation of the gentlemen at the College, we do him so little good, that they will not take off a single week from the period of his residence there. It is, I say, an unintended, but a gross insult upon the whole body of practitioners. We deeply feel it, and others are ready to take the advantage of it. Take away six months from the period exacted from the apprentice of a veterinary surgeon, and add it to the required residence of him who knows nothing about veterinary matters, and we would not complain; but, as the affair at present stands, the strangest injustice is practised upon us, and on our pupils too. No great time will elapse before we shall not be able to get

any apprentices, and shall be deprived of much of our comfort and our emolument. A portion of our business, too, we shall be compelled to abandon. There will be plenty to take it; but will they be able to conduct it with credit to the profession?

“I could say a great deal on this point, but I refrain. I could wish that in our profession, as in others, none should be admitted as pupils, or as candidates for a diploma, who have not undergone a previous preparation as apprentices, or in some other way. One thing more the experience I have had in a somewhat long life tells me, viz. that the young men who have not had any previous practice are those who pay the least attention, and distinguish themselves the least when at College.”

There is a great deal of truth in these observations, and they deserve the serious consideration of the governors of the College. Injustice is done to the pupil who has already devoted much time and money to a preparation for the honours of the school, and many a practitioner will experience serious inconvenience from the difficulty or impossibility of obtaining pupils or apprentices. We earnestly recommend these memorials to the attention of those who have the power to remedy the evil so justly complained of.

We regret that so great a portion of the present number is necessarily occupied by the contents of *THE VETERINARIAN* of 1839. We have much interesting and important matter for the next number; and if our contributors would permit us to have a few papers on hand, and a little abbreviated, we should often be enabled advantageously and usefully to classify our materials.

The account of the evening of the first day of the Association will be read with peculiar interest. The oration by the Secretary—quite in his own style—will amply repay the perusal. It embraces a mass of information, a crowd of useful hints, the importance of which it will be his pleasure and his pride more fully to illustrate.

The lectures which, unacknowledged, he had been in the habit of delivering to his class, and his truly scientific work on Veterinary Pharmacy, might have been received as sufficient pledges of his ability to discharge the duties of chemical lecturer. We rejoice, however, to add, that he has since appeared with the highest

credit before the Examining Committee; and, ere our readers will have received this Journal, he will have commenced an authorized course of instruction, in the theatre of the College, on those subjects so important to the pupil, and to which he will do the fullest justice.

For the last time, perhaps, we have given a full, or almost verbatim, account of the proceedings at the dinner which usually and pleasantly closes the first day of the session. At no period since the commencement of the College has the session commenced under such deeply interesting circumstances. Several of the speakers well described it as a new era in the history of the veterinary art. There was not a practitioner in near or distant parts of the country who had not connected with the proceedings of this day the future character and prosperity of the profession to which he belonged, and who will not forgive us when we tell him, that he has almost verbatim the whole that passed. He will form his own opinion of it: we have other matter to occupy the remaining portion of our leader.

We have heard, and from so many quarters as to leave no doubt in our minds with regard to the truth of the matter, that a letter has been sent by one of the members of the Examining Committee, distinguished by his surgical writings, announcing his retirement from the Examiners' Board; and that he has, honourably to himself, and most kindly to us, placed his retirement on the following grounds:—That our art has been making steady and rapid advances—that there are many now among us well worthy of the highest consideration, and fully competent to decide on the merit of the candidate for a diploma, and, in fact, the only persons who can be competent in the new state and character of the veterinary profession—that it would affix an unjust and a dishonourable stigma on our art, and would almost necessarily lead to the conclusion that we were yet incompetent or unworthy, if the examiners of the veterinary student continued to be selected from any except veterinary practitioners.

It was added by some of our informants, that this letter made a deep impression on the general body of the Examiners; and that, although it was not their acknowledged determination, yet it seemed

to be a feeling strongly prevailing among them, as soon as the present alterations at the College are in full working, to retire from a post which should now be occupied by others.

When this hour shall arrive—and we apprehend that it is not and cannot be far distant—we will render them our cordial thanks for the kindnesses and the benefits which they have bestowed upon us—we will forget that, to a considerable, although by them unsuspected degree, they have contributed in some not unimportant respects to retard the progress of our art; and it will be our pride to convince them—and that will be the best reward for their services—that we are now enabled to conduct our profession to that degree of high and just estimation of which it is fully deserving.

Speaking of examinations, there is a point to which Mr. Hallen has very properly referred in the 14th page of this Journal—the necessity of their being extended to the practical portions of our profession. This is a most important consideration. It bears heavily on what we have just stated as to the proper constitution of the Examiners' Board, and it also exposes an inexcusable neglect attending our examinations, and ours alone, throughout almost the whole world. The casting—the securing our patients for operations, and the actual performance of the operations incident to veterinary practice, are most important improvements. There needs not to be any cruel exhibition here. The casting, and the restraints necessary for the different operations, might be exhibited on the living subject; the actual operation might be shewn on the dead one, or, possibly, on some animal easily enough to be procured, and to whom the successful performance of it would be a blessing. We respectfully but strongly urge this on the serious attention of the Governors.

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No quadruped patient has yet found its way into the newly-erected buildings at the Royal Veterinary College: some sheep and pigs, however, have been bought, and experiments are now making on the effect of certain medicaments upon them. This is all very proper, although it must not be forgotten that the effect of a certain medicine during the health and the sickness of an animal is not a little different, and that the real object of the medicines which we administer is to restore and not to interfere with

health. Nevertheless a great deal of useful information will be collected in this way.

There is one point, however, to which we must return again and again, until the expectations of the English Agricultural Society, and the wishes of the united country, and the demands of the pupil, are accomplished to their full extent. We disavow every feeling of personal disrespect. We can admire the zeal of him who would attempt, and fain would worthily execute, every part of his duty as professor of pathology : but there may be an accumulation of duties to which no individual is or can be equal, and of the attempting of which an inadequate performance of the whole is a necessary consequence. So it is here. The student must be prepared to recognise and successfully to treat the diseases of every domesticated animal, indicated as they are in each species by symptoms obscure and apparently contradictory, and attended by consequences of which he alone who has studied them all in the living animal can form the slightest conception. The natural temperament of the ox and the horse have in them something, in appearance at least, diametrically opposite; and so far from the treatment of the one preparing for that of the other, there are few things in which the unwarned practitioner would be more likely to err. It is a long course of practice which alone can prepare the teacher of cattle pathology for the honest and adequate discharge of his duty. Many a man might be found in the prime of life, and in the full possession of all his powers, bodily and mental—many a man who on the foundation which a good education has laid has built a reputation for much deep and scientific acquirement; but that is not the man who can successfully unfold and teach all the difficulties of cattle practice. No! he must come from among his patients—he must have lived among them—he must have seen that which he teaches, and not merely learned it from the dicta of others.

Mr. Hallen has mentioned the name of a gentleman who would be fully competent to the task—Mr. Byron, of Ashton. We have the pleasure of knowing him, and we duly estimate his talent and skill. We believe him to be fully capable of the task : but in different parts of the country there are doubtless others who have studied in the same school, and might render the state service.

What a noble thing would be a *concours* for the election of this third professor !

How shall he be paid ? How ! Why, by increasing the admission fee of the student to that below which it ought never to have sunk—by wiping away, ere it be too late, the indelible disgrace of cheap and inefficient education, under which the College must otherwise inevitably labour—by demanding the medium fee of thirty guineas, little enough for the advantages the pupil would gain, and leaving something for other persons and other things.

Y.

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### Obituary.

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#### THE LATE MR. JOHN FIELD.

“The loss of our friends impresses upon us hourly the necessity of our own departure.”

IN the prime and vigour of manhood, in the flower of his days, and, until within but a few days of his death, in the enjoyment of full health, died on Saturday evening, the 14th ult., at nine o'clock, John Field. On the very same evening, only a fortnight before, was he sitting at the head of his own table, surrounded by a score of friends, whom he was in his fullest spirits cheering and treating with that unaffected kindness and hospitality for which every one who enjoyed his acquaintance knew him to be so conspicuous. He had been complaining a little before this occasion; and subsequently to it, on complaining again, had been advised to keep quiet and in-doors, and particularly as the weather was so rainy and unfavourable. He, however, urged by business, exposed himself again one very wet day, and came home feeling very unwell at night. He took a warm bath, and went to bed: this was on the evening of the 4th. Next morning he was worse: he continued in bed—that bed he never again quitted.

His disorder was low fever, attended with strange mental disturbance. From the very first, poor John Field had a presension that he should not recover, and so fixed was this sad presage in his mind, that no power was able to remove it—a presension which in his case proved, alas! but too true, although the writer of this obituary has had an instance in his own family in which a happy result followed the like impression.

The death of John Field will prove a serious loss to a large circle of private friends and relations, to the veterinary profession, to the public at large. Not many years ago he succeeded his



father in the largest veterinary practice ever known in this, or, probably, any other country; a practice which to the day of his death he was conducting with ability, industry, and a suavity and mildness of manner, such as is not every day seen, even in human practice, and rarely indeed in veterinary. In every and the truest sense of the word, John Field was a gentleman. He possessed a classical education, a good general knowledge, a deep and refined one on medical subjects. His urbanity and unassuming deportment were known to every body; he was a man of the highest sense of honour and integrity; and withal, of great charity: better than all, he lived a good life; and, best of all, he died a good death. He met the grim tyrant in the character of a good man, though fearfully, yet firmly: he knew his sad visiter, and asked but a little while to prepare to follow him. He lost no time in summoning around his bed his nearest and dearest relations; and, having settled his worldly affairs, he betook himself to his spiritual adviser, and with him spent the few remaining hours he felt he had to spend in this lower world. Oh! that all of us could meet death like this good man. What heaven-directed consolatory feelings such a man must have left behind him within the breasts of his friends and relations! What a pattern for them to live and die by!

In professional life John Field was a man far from putting himself forward: his nature was modest and unobtrusive, except on any occasion when duty called on him; and then was he to be seen in the foremost ranks, and often shining there with a brilliancy of character which those only who intimately knew him would have expected. As an orator, on several occasions, that he has evinced a polished "phrase of speech" as well as a highly cultivated knowledge of his profession, may be collected from his speeches reported in *THE VETERINARIAN*; and though as a writer he has left but little behind him—no book or work—still there is reason to believe that, had he lived, he would one day have given the fruits of his extensive practice and great experience to the profession, and thereby made large and valuable additions to our present stock of veterinary knowledge. We say thus much, not from any certain information we possess, but from so frequently having enjoyed conversations with him, in which he has given accounts of cases so in detail, and of such various dates, that we were necessarily led to the belief that he must have kept some records of them. That he had in his possession several highly valuable coloured drawings of morbid structures, every professional friend in the habit of visiting him well knew, from the pleasure he ever took of displaying them, and the pains he shewed and the memory he evinced in reciting the cases from which they were taken. Poor fellow! he was, with laudable pride, shewing



these very paintings, as they lay upon the table in his drawing-room, on the occasion before alluded to, of many friends, with myself, being assembled at his house, on the last Saturday but two of his life.

Sic transit gloria mundi!

Mr. Field had completed the thirty-ninth year of his age. He was a pupil at the College in the year 1818, obtained his diploma in 1820, and since then has been uninterruptedly engaged in private practice. His remains were interred on the 19th ult., at Mary-le-Bone church. They were followed to the grave by his relatives alone. Many are the professional and other friends of the deceased who most willingly would, by their presence, have paid their last mark of love and attachment to him; but it was his desire that the funeral attendants should be restricted to his own family.

Requiescat in pace!

P.

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## ON THE FOOT-ROT IN SHEEP.

*By Mr. ROBERT READ, V.S., Crediton, Devon.*

Dear Sir,—IN the following pages I have attempted to fulfil my promise to you some time since, to send you a short paper on the foot-rot in sheep. What I have written is from actual observation, derived from an intimate knowledge of the animal, being from my early days bred a farmer, and, now in the middle age of life, still connected with farming as well as the veterinary profession.

The diseases to which I am anxious to direct the attention of the profession, through the medium of THE VETERINARIAN, are those of the sheep, an animal of much worth, of great emolument to the farmer, and considerably benefitting the soil on which he is depastured. I will commence with the cause of that pest of the ovine race, the foot-rot, a disease of extensive prevalence in my neighbourhood, and on some farms scarcely if ever absent, particularly if they consist of rich meadow, old pasturage, park lands, or meadows situated near towns so as to receive the contents of drains and cesspools. Low situations, conjoined with moisture, are the fruitful and primary causes of foot-rot. Sheep in these situations have their hoofs and the integument above to which they are united, and the highly elastic tissue situated between the claws, constantly in a wet and humid state.

Having to attend and send applications to from fifteen hundred to two thousand sheep annually, I have seen it in all its different forms and grades. Go into any of the pasturages before described,

after sheep have been placed there for only a short period, and look at their feet:—will there not be an increased growth of hoof?—will not the skin around the coronet and the highly sensitive membranous tissue between the claws be blanched?—will not the vascularity of the parts be weakened from its circulation being enfeebled? Now this is all produced by wet. In a few days, perhaps, we have a change of temperature; evaporation is produced from the surface of the land, and from animal bodies as well, and the ground becomes drier. A re-action takes place; the circulation is quickened; the hoof swells, or rather is pushed from the parts beneath; the skin between the claws inflames; the heels bulge; the coronet enlarges; abscesses form; matter penetrates between the horn and the substance beneath, and disunites the sensitive from the horny laminae; and, in the worst forms of the disease, the hoof falls off. The joints, tendons, and ligaments, are soon implicated. Sometimes, from the overshooting of the toe of the hoof, it turns back or upwards, and breaks the horny sole from the crust: gravel then gets in; inflammation is set up; a separation of the foot from its horny covering is produced; and from every part of the foot thus denuded fungus quickly sprouts. The true foot-rot does not, as is generally thought, so often begin from below, as from above.

Hundreds of sheep on sharp sandy farms wear away their hoofs and soles, and expose the sensible parts. A little heat and tenderness ensue, and matter forms which is soon replaced by fungus. This might be got rid of in a short time. It is only a spurious kind of rot, and is again produced by the injudicious paring of the horny parts by the farmers and shepherds.

If a little gravel happens to have insinuated itself between the junction of the crust and sole, the knife cuts away without any ceremony too much of the crust, exposing the laminae, and the sole is so thinned as to afford no protection in walking. The animal limps at every step from the want of the horny crust: whereas, by only properly paring the foot, all might have been prevented.

It is, now-a-day, too much the fashion for the farmer or shepherd to have his sheep-foot knife always in his pocket, and every poor animal that happens to halt is caught, and, but too often, unmercifully pared. I have myself been an eye-witness to this. I have reasoned on its impropriety. The knife has been spared, and lameness has diminished. These two last causes are mechanical productions of the disease; yet, on the other hand, if the foot is improperly managed, and a fair vent not given for the escape of the matter, it rises upward and breaks out at the coronet, and makes the cure more tedious.

Sometimes one foot, either the fore or hinder, is affected; at

other times both fore feet : now and then all four ; sometimes only a single claw on one foot ; and both on another.

Such are the symptoms which I have been accustomed to observe during fifteen years' practice among these useful animals, and which deserve our most serious attention. I shall now make a few remarks on the question of its contagiousness. I have never been able to make up my mind decidedly on this point, although the strong leaning of my opinion is against its contagiousness. For the last three or four years I have made every inquiry of men accustomed to sheep. Some say, on my asking their opinion, that it is as infectious as the plague, for, if they put a lot of sound ones with some that were lame, they all became so. But I have then said, "Perhaps the sheep with whom yours were put were in a soil favourable to the production of the foot-rot, and yours were taken from a healthy soil." Such was generally the case, and such is the proof which farmers and others pretend to give us of its infectious nature. Little do they imagine what is the operating cause on a soil disposed to it. That which gives it to one will give it to a hundred, if there is a predisposition to take it on.

Again, we hear of farmers that never had it on their estates, their farms being on healthy sites ; but happening to take for a season, or buy at an auction, a ram that had the disease, and put him with the ewes, in from four to six weeks nearly the whole flock had been lamed. Scores of histories of this kind have been told me by different people ; but, from what I could gather, were solitary cases, and confined to the experience of the individual narrator. It might have been a wet season, for, during a wet or rainy summer (which has this year been the case), many farms that were free from, and others that rarely have it, have this season been pestered with it. Such a season might have occurred when conclusions were made to establish its contagiousness.

My opinion is, that you may put lame sheep with sound ones on a healthy farm ; they will soon get well, and the others not become infected. As a proof of this, I will relate the experience of a near relative of mine that has a very healthy sheep estate ; but who, also, rents an extraordinary rich flat piece of meadow land, watered by the town sewers. His sheep are put there occasionally, but, before a fortnight has expired, they are nearly all lame. He drives them home again, and, in a very short time, they are all sound, and not one of the others infected ; but, if the lame sheep had been driven back to a farm disposed to the foot-rot (although none lame thereon at the time), it would have been ascribed to infection, had they also become lame after some lapse of time, instead of the soil, which is the grand operating cause in conjunction with moisture.

If this disease is infectious, how is it induced ? Many experi-

ments have been tried by the French and others, by a direct application of the matter to the feet of sheep, on abraded and non-abraded surfaces; but the results have not been satisfactory. Now, if a direct manual application of the discharge to the feet of sheep scarcely, if ever, produces the malady, how can sheep acquire the foot-rot from one another by walking or treading about while feeding, when it is with so much difficulty produced by the actual contact of matter discharged from feet having the disease? The discharge issuing from feet in any stage of the disorder is not in a very considerable quantity, and must be lost on the land on which they are roving about. Neither are they infected while being folded so close in contact as to render it almost impossible that they should avoid inoculating themselves.

Shepherds and sheep-breeders, however, cannot be dissuaded that if a piece of land, or an enclosure, which gave their flock the foot-rot seven years since, should, at the end of that period, have some sheep turned upon it, and again—although none had been pastured there during those years—contract the lameness—they cannot, I say, be dissuaded from the belief that it must have remained in the ground with all its virulence the whole time, not thinking that the same soil which produced it seven years ago is capable of producing, for ages to come, and under favourable circumstances, the same disease.

There are, however, many stubborn facts recorded as to its infectious nature. Should these happen to be true, can there be given off from the feet of sheep labouring under the disease an animal effluvium, which, on a soil predisposed to it, is still rendered more contagious by uniting with any exhalation from the earth? then, on the other hand, sheep with the foot-rot, put on a sound farm, oftentimes cure themselves and do not infect the others. Such may be the case, as exhalations vary on different soils in their constituent parts as the land does in quality. Now, if empoisoned effluvia from the feet, or any malaria from the soil, uniting, become the cause, the effect must be produced on the local part by means of respiration whilst depasturing. We all know that there are many local diseases produced through atmospheric agency, and of a specific nature, capable of being again produced by inoculation.

All I can say is, that if any of us were to tell a shepherd it is not infectious, our skill as to curing it would be held by him in a rather dubious light: however, I will leave all this, and proceed to detail my plan of *treatment*, which consists in the proper application of the bichloride of mercury in a state of solution. There is no agent in Mr. Morton's valuable "Veterinary Pharmacopœia" which so disposes the exhalents to throw out lymph from sinuses, or de-

stroys the morbid action of the parts, as that chemical, and these are great desiderata in all states of this disease.

When a sheep halts, let your attendant cast him. Then, if the hoof is too long, pare it on a level with the sole; shorten the toe; and be particular in examining the foot between the claws. If it is swollen, looks red, or has any discharge of bloody serum oozing from any fissure or fissures, let the solution of the bichloride, or hydrochloric acid, be well applied to the part by means of a little tow twisted on a small flat piece of whalebone, and, in this stage of the complaint, one dressing is usually sufficient.

There is nothing so much desired by the farmer as an application which will at once put a stop to this complaint. The trouble it would save is incalculable, when we consider the time it takes to dress the feet every day of from 30 to 50 or 100 sheep.

If abscesses have formed around the coronet, and burst, they usually have two or three fistulous openings, which, with your silver probe, you will soon discover. Arm the eye of the probe with a little tow dipped in the solution, and draw it through the sinus or sinuses. If they extend into the joint, the same thing must be done. Twice is most commonly sufficient to apply the solution in these cases; and oftentimes, when you attempt to pass the probe the second time, you will not be able, from its being filled with coagulated lymph. If any of the discharge is between the crust, pare the sole, and with a feather or syringe apply it to the part. Fungus is sure to sprout from any part where the sole or crust is lost, and rapidly will it sprout. Agriculturists and shepherds are at a loss in curing these morbid growths, as they resist nearly all the caustic applications in use, both empirical and those contained in the materia medica. Butyr of antimony, quicksilver and aquafortis, and numerous other applications, are of no avail, especially if the disease is of long standing. There is but one quick and effectual remedy, that is the hot iron, which will do more good in five minutes than all the caustics in our pharmacy.

About four months ago, I was called in to look at two very valuable rams, belonging to a celebrated breeder, that had been lame for four months with a fungous sole. The gentleman had tried all his usual remedies to no purpose; and you will find during your practice, that people who have the management of sheep are rather tenacious of their own knowledge, and will have nothing to do with the veterinary surgeon, except from necessity. I applied the hot iron with a keen edge, so as to cut off the fungus. All fungus that sprouts from a denuded sole when of long standing, becomes hard and contracted at its base, which a hot iron will soon remove, and the lameness also in a few days, as it did in the case just recited. The fungus that grows from any part of the

foot from between the claws, from the laminae, and from the junction of the crust at the heel, may all be removed in the like manner by a keen hot iron. Numerous other cases I could relate as to its efficacy, but will not trespass much longer on the pages of THE VETERINARIAN, whose leaves are so valuable.

Poultices are of little or no good; oftentimes they do harm, and cause the disease to spread, by promoting suppuration. The drier the foot is kept, the more apt is nature to restore the parts to their primitive state. The parts become harder, and lymph is much readier formed. Do what you will, you cannot now and then prevent disorganization of the parts. I shall continue to treat of other diseases of the sheep as opportunity may serve.

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[We shall be glad to hear from Mr. Read when "opportunity may serve;" but, in the meantime, we do hope that some of our friends who are well acquainted with the general treatment of the sheep, and with this disease in particular, will take up the cudgels with regard to *the contagiousness of foot-rot*, and also defend the poor despised old-fashioned butyr of antimony, which is worth a guinea an ounce in this dreadfully destructive malady. We consider Mr. Read's paper as a valuable one, and on a great many points we go with him every inch; but we cannot at once surrender all our old prejudices.—Y.]

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## WORMS, THE CAUSE OF SUDDEN DEATH IN A DOG.

*Extracted from a Letter from PROFESSOR DICK.*

I LATELY had the body of a dog sent to me by a gentleman, who, when in London, some years ago, was in the habit of consulting you. In a letter which he sent to me by the same conveyance, he says, "My keeper went out shooting yesterday morning with the dog I now send to you. He was quite lively, and apparently well, during the former part of the day; but towards evening he was seized with violent vomiting. When he came home he refused to eat, and this morning, about eight o'clock, he died. As I have lost all my best dogs rather suddenly, I will thank you to have him examined, and the contents of his stomach analyzed; and to inform me whether he has been poisoned, or what was the cause of his death."

On opening the abdomen, the viscera appeared quite healthy. The stomach was removed, and the contents were found to be more decidedly acid than usual. The acids were the muriatic and acetic. The finding of an increased quantity of these is far from



being unusual. There was not a trace of arsenical, mercurial, or, in fact, any metallic poison. Of the vegetable poisons, I can only say, that there was not the slightest trace of the morbid effects of any of them.

The pericardium, and the left side of the thorax, contained a small quantity of bloody serous fluid, and the heart was full of black blood. The left lung was a little inflamed.

The trachea contained some frothy, yellow mucous matter, similar to the contents of the stomach.

In the larynx was found one of those worms usually inhabiting the cavities of the nose, and termed by Rhind *peutostoma tænoïdes*, and which had probably escaped from the nose while the dog had been hunting, and, lodging in the larynx, had destroyed the animal by producing spasms of the muscles of the larynx. The worm was about one inch and a half in length, and had partly penetrated through the rima glottidis. Another worm, about the same size, was found in the left bronchia, and a still smaller one among the mucus of the trachea. There were also four others in the nose.

Several years ago, I found some worms of the filaria species in the right ventricle of the heart of a dog, and which had produced sudden death, by interrupting the action of the valves.

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[The history of the Entozoa has been unpardonably neglected by veterinary practitioners. They have, and especially in the dog, far more to do with disease than most of us seem to be aware. Gellé, in the *Feuilleton* attached to his invaluable treatise on the Pathology of Cattle, gives a curious account of filariæ, embedded in the membranes of the œsophagus of an animal that has, I hope falsely, been supposed to be the progenitor of the dog.

The carcass of an old wolf that had been destroyed by a hunting party was brought to the Veterinary School at Toulouse. On examining him, there was found in the thoracic portion of the œsophagus four tumours, of the size of a small nut, and situated between the muscular and mucous coat of that organ. These cysts communicated with the interior of the œsophagus by a small canal half a line in diameter. Being opened, they presented a thick tunic or enveloping membrane, of a fibrous or almost scirrhus character, and of a marbled green and black colour. At some points this scirrhus substance was softened, and there were lodged a multitude of entozoa, of the filaria species. It appeared as if the worms could creep through these apertures into the œsophagean canal.

M. Gellé asks whether these scirrhus tumours were the consequence of wounds of the mucous membrane of the œsophagus, effected during the deglutition of some hard body, and that

the worms had taken up their abode there? or whether, like the excrescences on certain vegetables, they formed the birth-place of the entozoa? I have already recorded similar tumours, and similarly inhabited, in the stomach of a tiger, at vol. x, p. 620, of this Journal; and also of the existence of these worms, but not of the nidus, in the bronchi of a zebra (vol. ix, p. 507). The worms in the trachea of calves are illustrations of the same subject; but, in truth, too many of our examinations have been most slovenly conducted.—Y.]

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### THE CONCRETIONS OF FARCY AND GLANDERS.

M. LASSAIGNE, Professor of Chemistry at the Veterinary School at Alfort, has examined the divers materials which constitute the concretions that are often found in animals affected with farcy and glanders. He was assisted in his analysis by the Director of the school.

Having collected these productions at different stages of the maladies, these gentlemen assert that, in their recent state, these concretions consist only of a white fibrous and albuminous coagulum, in which is afterwards deposited a variable proportion of phosphate and carbonate of lime. This increase of saline particles is one of the causes of the hardness which these tubercles assume at the centre of the organs in which they are found.

*Rec. de Med. Vét. Août 1839.*

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### GENTLEMEN WHO HAVE PASSED THEIR EXAMINATION AT THE ROYAL VETERINARY COLLEGE, LONDON.

*December 4th.*

Mr. A. Garrad, Colchester.  
— J. Igoe, Dublin.  
— J. Howell, Wotton-under-Edge.

*December 18th.*

Mr. J. Frampton, Highworth,  
— G. Page, Morchard Bishop,  
— A. Bottle, Sandwich.

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**VETERINARIAN.**

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ON ROARING.

*By W. PERCIVALL, Esq., M.R.C.S., and Veterinary Surgeon to  
the 1st Regiment of Life Guards.*

[Continued from p. 9.]

DEFORMITY OF THE LARYNX OR WINDPIPE, by which I mean original malformation of them, is included by the French veterinarians among the causes of roaring. I do not remember ever having met with a case of the kind myself; though I once saw a preparation which gave me great reason for believing that the canal of the windpipe might be mis-shapen even from birth.

It was a wet preparation. The canal of the windpipe, instead of being circular, was triangular, the sharp angle being turned forwards. Behind, the flaps of the rings of the pipe overlapped one another much beyond what was natural. The lining membrane was thickened throughout its extent.

MECHANICAL OBSTRUCTION proves an occasional cause of roaring. A tumour of any sort, or any foreign body, pressing against the air-tubes, or forming within their cavities, may, either of them, be productive of roaring.

THE HEAD MAY BE THE SEAT OF ROARING.—My old friend and school-fellow, Mr. James Turner, in 1837, sent a paper to THE VETERINARIAN, the product of very accurate observation of a decided case of roaring in a horse sent to his Infirmary to be destroyed on account of lameness.

Having completely satisfied himself of the existence of the disorder—the noise made being “precisely that of a common roarer,”—and in one of its most aggravated forms,—he very carefully examined the larynx, trachea, and lungs, after death, without arriving at the cause, which at length was discovered to be in the head. “The right anterior and posterior turbinated bones were enormously enlarged,”—“dilated,”—“not distended by any accumulated contents.” “Upon attempting to pass my finger,” continues Mr. T., “down the passage through the palatine arch, as a sound or a probe, it was opposed by the turbinated bones being almost in contact with the septum, owing to their dilatation.” Subsequent drying of the head shewed that that which in the recent state had appeared like enlargement or exostosis, was “owing simply

to the dilatation of every cell or interstice, all of which were perfectly empty." "This horse's case may apply to hundreds. In all probability this permanent unsoundness was the sequela either of severe catarrh or strangles."

Science is indebted to Mr. Turner for the development of this new fact; but I cannot myself regard it otherwise than as an occasional—not a common—cause of the disorder.

Professor Sewell met with a case of roaring, in which he found an exostosis growing from the cervical vertebræ, between the two first ribs, and pressing against the windpipe. The French authors present us with accounts of *polypi* in the nostrils; a piece of ribbon in the chamber of the nose; a molar tooth displaced, and thrust into the same situation, producing roaring; but for my own part I never met with any cases of the sort.

**PULMONARY COMPRESSION.**—Hurtrel d'Arboval includes both pleurisy and peripneumony among the causes of roaring.

A question has arisen, whether or not we are warranted in regarding the *lungs* as the seat of roaring. The subject being one on which individual experience is necessarily contracted, it is only by an appeal to practitioners at large that such a question can be satisfactorily answered. In my own mind theory would seem to reply in the negative: the following case, however, makes me stagger in this opinion. The case occurred to my late much respected father.

A horse was treated for violent roaring. The neck was repeatedly blistered; it was even fired; but no relief was obtained. So painful was it to hear the animal roar, when he was even gently led out of the stable, that bronchotomy was had recourse to, but without avail. At length, seeing the animal continued to suffer so much pain and distress in breathing, and that the case appeared altogether insusceptible of being relieved, it was determined to destroy him. On examination, no thickening of the laryngeal or tracheal membrane appeared, nor, in fact, any other disease of those parts. But the lungs were hepatized throughout their substance, and the smaller divisions of the bronchial tubes in many places so compressed that they were hardly pervious.

From the circumstance of the operation of bronchotomy not having any effect in this case, it is obvious enough the cause must have existed within the bronchial tubes: there cannot, therefore, remain any further question about the seat of roaring occasionally being the lungs. In confirmation of this stands the testimony of Mr. James Turner, who says, "I have occasionally ridden some roarers, in which I have been perfectly convinced that the noise issued from obstructed bronchi within the lungs themselves."

**NERVOUS INFLUENCE.**—In the year 1826, M. Dupuy published, in the *Recueil de Médecine Vétérinaire*, an account of some extremely interesting experiments on this subject. He found that either compression or division of the eighth pair of nerves had the effect of producing roaring; and the rational explanation he gave of the phenomenon was, that as the inferior laryngeal nerves which

supply the dilator muscles of the glottis are branches of the par vagum, of course those muscles would become paralyzed; while the superior laryngeal, going to the constrictors of the larynx, preserving their power, would cause the glottis to be nearly closed, and thus occasion the animal to roar. Here is a new field opened for observation. We are not to expect division or destruction of continuity; but there are changes and accidents that may occasion compression, either of the par vagum or recurrent nerve, on one or both sides. Some French veterinarians have discovered, they say, little ganglions upon the nerve, compressing it. Mr. Youatt fancies the pressure of the collar or lower jaw may have the same effect. The formation of a tumour, any where in the course of the nerve, might, perhaps, do it. After all, however, I cannot say that I augur any great deal of elucidation from this new light.

**SPASM OF THE MUSCLES OF THE GLOTTIS.**—Vatel places roaring among “nervous disorders,” though he admits there are but few cases in which it is referrible to spasm. My lamented friend Mr. John Field, whose opinion on every point of veterinary pathology was valuable\*, very sagaciously observed, that the frequent cause of roaring, in cases of ulceration of the rima glottidis, is “spasm of the glottis. While the horse,” says Mr. Field, “is suffering great pain from the passage of the air over these denuded surfaces, the instinctive action of the muscles, more powerful than the will of the animal itself, partially closes the air-tube, and thus lessens the irritation. I have seen many cases of this kind, and by opening the trachea have obtained immediate relief. The roaring which supervenes during the development of glanders is precisely of this description.” To prove the influence of the recurrent nerve Mr. Field made the following experiment:—

“Having ascertained that the organs of respiration of a horse used for farming purposes were sound, I cast him, and laid bare the recurrent nerve of the off-side, and passed a ligature loosely around it: he was then allowed to get up, and, after a few minutes, galloped severely without evincing the slightest defect in his breathing. The nerve was then drawn out by the ligature, and one inch and a half of it excised; and immediately, on only trotting the horse a short distance, such a degree of roaring was occasioned, that, had the exertion been continued, he would soon have fallen. I kept this horse four years; and, though his breathing became much better, he continued a sad roarer: at the end of that time I destroyed him for the larynx, which exhibited the usual condition of wasted muscles on the side deprived of the influence of the recurrent nerve.”

**ROARING, HEREDITARY.**—That roarers have both bred and got roarers, I believe, there are instances enough on record to prove; but whether this be referrible to some peculiar or faulty conformation, or can be regarded as the transmission of the disease itself, is

\* See Proceedings of Veterinary Association, in THE VETERINARIAN for 1837.

a question which appears yet unsettled. For my own part, I should say, experience seems to teach us, that, so far as conformation or liability is concerned, disorders may prove hereditary ; but I have no notion of morbid action being conveyed from parent to offspring unless through the medium of contagion or infection. That habits and vices, however, are so conveyed there cannot remain a doubt.

Mr. W. J. Goodwin, whose observations in these matters must have considerable weight with us, has kindly informed me, in answer to my inquiries, that, to the best of his recollection, the mare called " Mary," by Precipitate, who was herself a roarer, bred a filly by Sorcerer, also a roarer, and that filly bred a roarer to Waterloo, called " Black Jack." In opposition to this, however, stands the following fact, for which I am likewise indebted to Mr. G. :—Taurus, a celebrated racer, a roarer, has covered several mares, and their produce are all turning out well and have won several races, in no one instance his get having proved a roarer, and notwithstanding that his own family were all notorious for the disease. Mr. Goodwin knows of a mare who has produced four crib-biters, though covered by different stallions, and she herself not possessing the vice.

THE TREATMENT OF ROARING is an affair that will employ all our skill and scrutiny. As I said before, unless we can ascertain the cause of the evil, and make a shrewd guess at the nature and situation of this cause, we do little more than impose upon our employers, and upon ourselves too, in attempts to remove it. Towards this end, the first inquiry to be made, is, how long the horse has been a roarer. Secondly, whether the roaring followed catarrh, or cough, or bronchitis, or strangles, or distemper of any kind. Thirdly, whether the horse has run in harness, and is in the habit of being tightly reined up, and whether the roaring existed antecedently to his going in harness, or has come on since. Fourthly, by careful examination, to ascertain whether there is any mechanical obstruction to account for the roaring ; or any distortion, or deformity, or unnatural tenderness about the larynx or windpipe. Fifthly, if there is any reason for believing it to be nervous or spasmodic. Lastly, should there appear any chance of the horse being benefited by treatment, to inquire what is his value—what value his master sets on him—and whether his owner is willing to give him up a sufficient length of time for requisite trial.

A CURE FOR ROARING is what—at least, in the common acceptation of the phrase—we do not possess ; nor is it possible for a general cure to be included in any one individual remedy, or special set of remedies. That which would tend to remove it as the consequence of disease, would be entirely inapplicable in a case where it arose from distortion ; while those means which seemed best adapted for a case of distortion would, probably, prove altogether inefficacious in one of mechanical obstruction. In fine, any remedy we may possess can only be suited to one description of disease ;



the art of cure consisting rather in the *adaptation* of the remedy than in the knowledge of the remedy itself. The only pretensions we, as men of reason and science, can set up towards a cure, are such as are founded on the understanding we may obtain of the immediate cause of roaring: all other boastings are downright quackery, and worse than quackery, imposition.

I introduce what follows in this place for the double purpose of shewing to what extent the public may be gulled by empirics, and what improvements our art has made, even within these very few years past. Clater, whose works surpass those of White by half-a-score editions—*ergo*, according to his own account, just by so much *par excellence*—"The rapid sale of *twenty-three large impressions* of this work has established its character upon the surest foundation"—these are his words—Clater, I repeat, in "Every Man his own Farrier," 24th edit., recommends for the "Cure of Roaring" a few aniseeds and caraway seeds, and a little Dover's powder, mixed with the balsam of sulphur and the yolk of an egg!—altogether about as effectual as White's squills, ammoniac, and aniseeds must prove in broken wind. And yet these are two works which, for the best part of the last half century, have engrossed the attention of the public! *Proh pudor!*

With a view of shewing the different plans of treatment apart from each other, and of making it intelligible in what kinds of roaring they are respectively applicable, I shall suppose cases of the description that are likely to come before us, and affix to each of them the proper treatment.

AUSCULTATION, carefully practised, will prove very serviceable to us in discovering whence the sound proceeds, and leading, probably, to some better opinion as to what gives rise to it. The stethoscope may be used: but, in general, we shall do better, I believe, without it. It will be an important step towards treatment to make out whether the cause resides in the head, or the larynx, or the windpipe, or lungs.

TREATMENT OF ROARING, THE ACCOMPANIMENT OR CONSEQUENCE OF INFLAMMATION.—Should the roaring be recent, and the horse have been lately, or be still, labouring under any inflammatory affection of the air-passages—laryngitis, bronchitis, strangles, influenza, catarrh, or even cough—it will probably be requisite to employ depletive measures; though this again must depend upon what has already been done, as well as upon the nature, stage, and intensity of the inflammatory action present. Bleeding may be required; purging may be required; alterative medicines are generally useful; counter-irritation almost always. Draw three or four quarts of blood: rather be content with this, and repeat the same, than abstract a larger quantity. Give purgative or alterative medicine: administer daily such a ball as this:—

Take of Calomel.....	3ss	
Barbadoes aloes (in powder) .....	3iss	
Digitalis (in powder) .....	3ss	
Venice turpentine.....	3ij	Mix into a ball.

Whenever the ball produces purging, omit it for a few days, and then give it again every day, or every other day, according to circumstances. Apply a strong blister to the throat; and likewise—should there appear any reason to suppose disease exists in the windpipe—extend it along the front of the neck, in the course of the pipe. As soon as one blister is worked off, apply another; or else insert setons through the parts. The latter is an excellent practice where we are desirous of keeping up continual irritation.

In regard to all this treatment, however, let it be observed, that, although it holds out a prospect of success in a case wherein the roaring is but recent and manifestly traceable to some inflammatory affection which is still probably concealed under the form of an occasional cough, a shortness or pursiness of breath, or some slight fever in the system lurking about the air-passages, it will not and cannot prove of any avail in a case in which the roaring is, from its duration, become established, and where all remnant of inflammatory action has, for some time past, disappeared.

EXCISION OF THE CROSS-BANDS OF COAGULABLE LYMPH.—It is said—for its truth I cannot vouch—that, once upon a time, a veterinarian in performing the operation of bronchotomy on a roarer had the good luck to cut against one of these bands, and so, like a prudent man, excised it, and thus fortuitously achieved a cure on the horse whom he had anticipated but to relieve. The circumstance was eagerly caught at as opening a new and successful field to experimenters, and the windpipes of roarers were most mercilessly slit open in search of similar bands. So many disappointments followed, however, that the novel operation was abandoned for the introduction of a practice which, if it does not offer the same glittering prospects, is, at all events, free from evils that *may* accrue from cutting and slitting the windpipe. In fine, this is an operation which, considering the extreme rarity of the cases wherein it is applicable, no man is justified in performing, unless he can practise auscultation in that perfection, that he can positively say, bands of lymph *do* exist, and precisely point out the place of their existence.

TREATMENT OF ROARING FROM TIGHT REINING-IN.—One cannot rationally entertain hopes of cases of even this kind, of any considerable duration. In time, as we have seen, not only does the distortion of the larynx and windpipe become permanent and irremediable in consequence of the parts losing all their wonted tone and elasticity, but changes of their structure take place: the muscles shrink and waste away; and the cartilage itself becomes altered—probably converted partially into bone. Should the subject be a harness-horse, and have been in the habit of being tightly borne up, let him, for the time to come, be driven without any bearing-rein at all: and, in addition to this, when in the stable, let him be bitted

to the side chains or straps, for a couple of hours, twice a-day, in such manner that his head may be kept continually elevated, and his nose projected forwards *à la Russe*. This is also the best plan we can pursue in a case where the mischief has been occasioned by any injurious constraint of the head in breaking, biting, or lunging the horse.

I know of nothing more that can be done by way of treatment for roaring, unless we choose to try iodine : it may either be given internally or employed as an ointment, or used in both ways. I have not yet myself had an opportunity of making trial of it.

HOPELESS CASES.—As such, in general, may be regarded all cases of long duration, arise from what causes they may. Also such as there appears any reason to believe are hereditary, or dependent upon an original malformation of parts. Cases of distortion are equally irremediable, when the distortion has existed so long as to destroy the original form and properties of parts, and in their place to have established fresh ones. Such can only be benefitted by

THE FRENCH TREATMENT, which consists in the performance of bronchotomy, or tracheotomy, as they more properly call it. They make a large aperture, and use a proportionably large tube\*, so constructed and adapted that the animal can not only freely breathe through it, but do his work, and even gallop, with it in his neck. In this manner very bad roarers have been known to have been kept quiet for two or three years, and at work all the time.

## STRAY PAPERS ON VETERINARY JURISPRUDENCE, INCLUDING MEDICAL ETHICS.

*By Mr. THOMAS WALTON MAYER, V.S., Newcastle-under-Line.*

[Continued from p. 373, vol. xii.]

### THE STUDENT AND YOUNG PRACTITIONER'S RIGHT.

WHAT are the rules that should regulate our professional intercourse with each other ?

If, gentlemen, it were possible that I could put this question to each of you separately, how many answers, think you, would be similar ? How many of you would be agreed as to the number and extent of the rules of conduct requisite for the well-being and regulation of our lives ? Simple as the question at first sight appears to be, and united as many may be upon most points connected

\* The tube I recommend will be found described in the 1st vol. of Hippopathology. It is sold by Long, 217, Holborn.

therewith, there are several, true in themselves, to which we may not be disposed to yield our consent, or, if they were assented to, we should, perhaps, tacitly resolve should never be acted upon. For such is the nature of man, that he is often too ready to break the bonds which good sense and feeling would impose upon him.

It would be presumptuous in me if I were to attempt to lay down any axioms for your study beyond what are consistent with the dictates of common sense. It is enough for my purpose to place on record a simple narration of those rules which I feel are safest for my own guidance, and which I think will prove equally so to you.

It was the advice of one who proved that he took a deep interest in the veterinary students' welfare, and had the capability of giving them good and sound advice, to "aim high enough." This simple pithy observation, whether in reference to your own conduct or to your public duties—whether looked at in a moral point of view, or in the common business of life—is equally available; establishing by its very simplicity as well as universal application, its right to be placed as the first rule in the Grammar of Veterinary Propriety.

Convinced of the correctness of this standard, you will perceive the necessity of becoming masters not of one but of every branch of your profession. Not only is this due to yourselves as the means by which you must live in the world, but it is also your duty towards those who may become your employers. Because if they repose the fullest trust on you, as being fully competent to discharge the duties of your profession, and you are incapacitated by your negligence in obtaining the necessary acquirements, you are cheating them, and wronging yourselves.

Again, recollect that the knowledge obtained by you is a *trust* which you are *empowered* to employ for the benefit of the health and the mitigation of the sufferings of various classes of animals ordained by an all-wise Creator for the use and service of man. Of the *use* or *abuse* of this trust you will one day have to give an account. If, therefore, you neglect the constant aim that you ought to have before you in the study of your profession—if, in your practice, you *add to the ravages of disease*, and *torment* your patients, rather than alleviate the excruciating agonies to which they are liable, you are criminally neglecting your duty. Every living being has its proper destination and its certain end; but you will recollect that, even in that termination, the veterinary surgeon has it in his power, in some measure, to diminish the agonies of the dying hour. In proportion, therefore, as you omit this duty, you are guilty of *injustice* to yourselves, *dishonesty* to your employers, and *inhumanity* to your *patients*.

Cultivate a high standard of private and professional conduct. To become fully alive to the importance of this rule, you must view the subject in its various bearings, and employ those means which are most likely to accomplish your intentions. Zeal and ardour in the profession you have embraced will lead to habits of industry and perseverance, accompanied by a right employment of those leisure moments which are more or less at the disposal of every man. Those moments cannot be more profitably employed than in the *improvement* and *cultivation* of your minds, and in the prosecution of your studies in literature and science. By these means you will imbibe a love of truth—integrity of principle will be maintained—the laws of good breeding and the customs of society will be attended to—vice, in whatever form, will be discouraged—the tricks and devices of those men with whom your practice often brings you in contact will be scorned and avoided—the various duties of private and social life will be performed with pleasure and delight—in short, all those virtuous principles which are an ornament to man will be fostered by you, and their effects discovered in your every action. You will then feel that “the mind which has once imbibed a taste for scientific inquiry, and has learned the habit of applying its principles readily to the cases which occur, has within itself an inexhaustible source of pure and delightful contemplation. Accustomed to trace the operation of general causes, and the exemplification of general laws, in circumstances where the uninformed and uninquiring eye perceives neither novelty nor beauty, he walks in the midst of wonders. Every object which falls in his way elucidates some principle, affords some instruction, and impresses him with a sense of harmony and order; nor is it a mere passive pleasure which is thus communicated. A thousand questions are continually arising in his mind—a thousand subjects of inquiry presenting themselves, which keep his faculties in constant exercise, and his thoughts perpetually on the wing; so that lassitude is excluded from his life, and that craving after artificial excitement and dissipation of mind which leads so many into frivolous, unworthy, and destructive pursuits, is altogether eradicated from his bosom.”

With habits, principles, and manners characteristic of what you are by profession—“a gentleman,”—your dress and style of living must be in keeping, and *invariably within* your means.

Simple, clean, and unadorned—avoiding the extremes of fashion on the one hand, and the horse-dealing groomish appearance, so disreputable to a medical man, on the other—your appearance should always be : your style of living may be safely left, I hope, to your own good sense, which, I trust, may always keep you from the extremes of extravagance and penury.



By taking this path—the plain path of your duty—you sensibly gain a step towards correct professional conduct (for where the spring is pure, we expect the stream to be the same). Your general deportment to your brethren, whether in consultation or in society, will be kind and unassuming; and when called upon for your opinion, it will be given *modestly, cautiously, and honestly*, in the presence or the absence of unprofessional witnesses.

Your duties to your employers will be fulfilled in like manner. Their orders executed with attention, and with scrupulous regard to their pockets. Your duties to your poor patients with careful observation—with discretion and humanity.

When called upon to deliver an opinion in a court of justice, you will give it fearlessly and honestly, avoiding all ingenious theories, and only stating facts borne out by your own observation, or on the unquestionable veracity of others. Your statements will then be listened to with attention. Veterinary jurisprudence will be no longer blackened by contentious opinions, or remain a by-word and a laughing-stock to the world.

“To aim high enough,” then, whether in your education, or in your general conduct, and in the cultivation of those means by which it may be attained, you will thus perceive to be no light matter. The want of it, and the mischief it has occasioned, you may easily see exemplified by a reference to some of the following pages of this Periodical:—Vol. iv, p. 104 and 456; Vol. v, p. 642; Vol. vii, p. 133, 347, 392; Vol. ix, p. 91; Vol. x, p. 242, 285.

It will, I think, be evident to you, that a change in principle, action, and conduct, must take place before ever we shall see that change in the profession itself which the *present* state of veterinary science demands.

For farther advice on the important topics alluded to in this letter, I beg to refer you to Dr. Gregory's Advice to a Physician, Ryan's Medical Jurisprudence, and to many papers which you will find scattered among the volumes of THE VETERINARIAN.

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## CATTLE PATHOLOGY, OR A COMPLETE TREATISE ON THE DISEASES OF THE OX.

*By P. B. GELLÉ, Professor of the Royal Veterinary School at Toulouse. Huzard, Paris, 1839.*

WE continue to translate from the work of Professor Gellé. He relates a case of rupture of the œsophagus, and a successful one; but we acknowledge that we should have pursued a somewhat different mode of treatment.



“On the 15th of September, 1800, I was requested to see a beautiful cow, four years old, that had on the left side of the neck a tumour as large as a loaf of bread of four pounds weight, and extending from half-way down the neck to the thorax. It was soft, fluctuating, and might be handled without giving the animal much pain. The respiration was laborious—the distress of the animal evidently great—the pulse accelerated and full—the paunch somewhat distended—the beast making frequent efforts to vomit, and the mouth filled with adhesive saliva.

“I was told by the proprietor that the cow had attempted, in the early part of the day, to swallow an apple that had fallen from one of the trees that were planted in the fence, and that it was arrested in its course down the œsophagus. He had immediately sent for a cattle-doctor, who had passed a willow rod down the gullet, and which operation had evidently given the animal a great deal of pain. He then said that the beast was labouring under inflammatory fever, and he prescribed a bottle of wine with some theriaca, composed of thirty-six vegetable ingredients, stimulating, narcotic; in fact, an *omnium gatherum* of almost every incompatible vegetable production that could be blended together. The swelling just described soon afterwards made its appearance, and then, frightened at what he had done, the empiric abandoned the cow as altogether lost.

“Another pretender to a knowledge of the diseases of cattle gave a similar draught, and the cow became still worse than before.

“As soon as I saw the case, I suspected that the charlatan had ruptured the œsophagus, and that the fluctuating tumour consisted of the fluid which had penetrated into the surrounding cellular tissue by means of the lesion which he had effected. I examined the course of the œsophagus, and ascertained that a hard body was impacted in it about half way down the neck.

“I had her cast, and the head distended. I cut through the integument from above downwards to the extent of a couple of inches—this hard body being my guide. I then introduced my finger into the wound which I had made, and broke down with it the neighbouring cellular tissue, until I arrived at the centre of the tumour, when the wash and the theriaca gushed violently out. Then, guided by a sound and a canula, I enlarged the wound, and found the strangely projecting portion of the œsophagus. I cleansed it from the portions of ruptured cellular tissue which the effusion of the fluid had caused, and was compelled to make another incision at the beginning of the dewlap, before I could get rid of the whole of the effused fluid. After having washed all this away, I attempted the extraction of the apple. I prolonged the

incision downwards, until I had arrived at the rupture of the œsophagus which had been effected by the stick, and then I was compelled to prolong my incision several lines before I could so far introduce my finger under the apple as to effect its dislodgement.

“A column of air of a sour, fetid odour immediately escaped through the wound, and the swelling of the abdomen directly subsided. I cut away, with a curved pair of scissors, some portions of the ruptured coats of the œsophagus; I washed the wound with some salt and water to which a little alcohol had been added, and, without disquieting myself on account of a slight hemorrhage which had taken place, I filled the wound with some portions of fine tow dipped in the same solution. I then effected two sutures through the skin, and prescribed a restricted diet.

“17<sup>th</sup>.—There is considerable local inflammation, and constitutional irritation. The beast is devoured with thirst. I abstracted six pounds of blood from the right jugular vein, and removed the bandages. The wound looked healthy, and it seemed as if some granulations were already beginning to spring from the bottom of it. I, next, offered our patient some warm gruel. While I endeavoured to close the wound with some pledgets of tow, she drank with avidity; but a considerable portion of the fluid escaped through the wound—some of it, however, finding its way down the œsophagus. We offered a second lot of gruel, but she took only a portion of it, for the act of swallowing was painful and fatiguing. I dressed the wound as before, and ordered a fomentation with a decoction of mallows over every part that was swollen; I likewise desired the farmer to give her some gruel twice in the day, pressing a little on the dressings with the hand while the cow drank.

“19<sup>th</sup>.—It was reported to me that she had swallowed a considerable quantity of gruel, but that a portion had escaped by the wound, and, especially, by the counter-opening in the dewlap. I removed the dressings. The wound appeared as healthy as I could wish—the proper degree of suppuration was established—the granulations were red and prominent, but the surrounding parts still exhibited some inflammation. Having offered her gruel with the precautions previously used, the fluid passed more rapidly, and in greater quantity, through the natural channel. The wound was well cleansed from the gruel that stuck about it, and dressed as before. The cow seemed almost famished, and we were compelled to put a muzzle on her, to prevent her devouring the litter. We now fed her with a thin panada, which she readily swallowed, the œsophagus using its natural contractions upon it. The gruel also was continued.

“I saw my patient every three or four days. The cicatrization

advanced rapidly, and we augmented the quantity and consistence of the panada. On the 15th day after the operation the fluid did not escape in more than a straw-stream from the wound. I then offered her a few cabbage-leaves cut small, which she readily swallowed.

“ On the 20th day no fluid escaped from the wound, and the patient began to ruminate slowly and in small quantities, for we had begun to give her a little after-grass. With all requisite precaution she was then permitted to return to her usual food, and, at the expiration of a month, the cure was complete. This narrative proves that, in cases of rupture or wounds of the œsophagus, the parts will unite and cicatrize without the suture recommended by old writers.”

We acknowledge that this interesting case does prove the possibility of the divided edges of the œsophagus spontaneously uniting after very considerable laceration; but would they not unite more readily and more perfectly if they were carefully brought as nearly as possible into apposition, and retained there by proper sutures? We should very much fear that the uniform caliber of the œsophagus would be seldom retained when the union between the divided edges was suffered to take place thus at hazard. We should, in the majority of cases, have some inconvenient degree of contraction, and occasionally the œsophagean canal almost impervious; but by the union of the divided edges through the medium of a suture we should have a more rapid and uniform cicatrix, in very few cases attended by any great contraction of the gullet, or, at all events, by none which by the use of our improved probangs we could not easily remedy. Much, however, will depend on the direction of the scissure. If it be in a direction parallel with the fibres of the gullet, the divided edges may unite without a suture; but if it is transverse or oblique, the use of a suture is imperiously required. The prudent operator will seldom or never omit its use.

When describing the singular substances which are sometimes found in the œsophagus and rumen of cattle, M. Gellé refers to the presence of a snake in the gullet causing extreme annoyance to a cow. The author of the work on “Cattle” has given an account of this, and has hinted at another case which M. Gellé describes at length: “A cow five years old, as she was driven to pasture, seized a leathern glove, which the gardener employed in trimming the hedge had forgotten. She ground it with her teeth as well as she could, and swallowed it, in despite of the efforts of a young lad who looked after her, and who endeavoured to drag it from her mouth. She soon afterwards became uneasy, and refused her food. She was led into the stable, and the owner gave her

some oil and barley-water, which only increased her sufferings. Six hours afterwards the veterinary surgeon was sent for, and he observed the following symptoms: extreme distention of the paunch—agitation and trembling of the hind-quarters—the head and neck protruded horizontally—frequent efforts to vomit—a great quantity of saliva running from the mouth, and the sufferings of the animal expressed by constant moaning.

“He immediately punctured the paunch, and left the canula in the flank; and after a careful examination, not being able to detect the foreign body, either in the pharynx or in the cervical portion of the œsophagus, he presumed, with some reason, that it remained in the floating or thoracic portion. He then introduced a probang into the gullet, and found that its passage was arrested at the extremity of the œsophagus, and that, whatever violence or skill he might use, he could not force it on into the paunch. Every effort which he made had no other result than to cause useless suffering to the animal. Night now coming on, he deferred the adoption of other measures until the morning. The morning came. The cow was suffering as much as ever, and the surgeon made another attempt with his sound. He was as unsuccessful as before; and then he determined, with the consent of the owner, to enlarge the opening which he had made in the paunch with the trocar, and to empty that organ of a part of the aliment which it contained, in order that he might be able to introduce his hand as far as the œsophagean canal, and grasp the foreign body which he supposed occupied the opening of the œsophagus into the paunch.

“The cow being standing, they placed her with her right side against the wall of the house, and to which she was fastened by ropes, so that she was altogether unable to move. The canula of the trocar was withdrawn, and a straight bistoury plunged into the left flank two inches from the transverse apophyses of the lumbar vertebræ, taking a direction from above downwards into the middle of the flank, and comprising the walls of the flank. This opening was made sufficiently large to enable the surgeon, M. Salon, to introduce his arm into the flank.

“The alimentary contents of the paunch immediately presented themselves. Although a little dry, they were in the act of fermentation, and the paunch was full. He then passed one end of a linen cloth into the paunch, letting the other hang over the side of the animal; and by this means he was enabled to take out a portion of the contents of the rumen, without letting any of it fall into the abdominal cavity. With the assistance of a little wooden dish he laded out full thirty pounds of food, which permitted him to reach the orifice of the œsophagean canal. The sound was again introduced into the œsophagus, and confided to the care of an as-

sistant, who was to press upon the foreign body while the arm of the surgeon was in the paunch. Among other things drawn out of the paunch was a pocket-handkerchief, which had preserved its colour, but was torn by the slightest touch.

“The assistant, by means of the sound, favoured the approach of the œsophagean orifice towards the hand of the operator, by pushing the paunch backwards. The arm of the surgeon was introduced into the paunch; it reached the œsophagean orifice and it touched one of the fingers of the glove. He pinched it between the fore-finger and the thumb, but having only a feeble hold of the foreign body, which was wet and slippery, he could not fairly grasp it; for although he used all the strength which in such a situation he could apply, it slipped from him every instant. He then tried to introduce his finger in the œsophagean orifice, but it was so spasmodically closed that he could not effect his purpose. At last he armed himself with a small pair of pincers, and seizing the finger of the glove, which before he had only been able to do little more than touch, he drew it gently on, turning his hand, and humouring its passage, until he completely extracted it from the vice in which it was held. The moisture of the stomach had caused it to swell to a degree that would scarcely be credited, and it was this circumstance which opposed its passage.

“A restricted diet, consisting of mucilaginous drinks, and attention to the cleanliness of the wound, which was dressed with turpentine ointment maintained in its place by an adhesive plaister, soon closed the wound in the flank. On the 10th day the cow was permitted to eat a little dry food; and on the 22d day she was dismissed from treatment. She was with calf at the time the accident happened, and she went her full time, and brought a fine calf without any unusual difficulty.”

The presence of a foreign body in the cervical portion of the œsophagus may be readily detected; but who will confidently pronounce that this accident has occurred in the thoracic or floating portion of the organ? Many cattle are lost in consequence of obstruction here, and they perish because no one suspects the existence of the evil. A veterinary surgeon, however, well versed in the diseases of cattle, ought to be able to recognize it without the slightest difficulty. The sudden loss of appetite—the cessation of rumination, connected with a peculiar and distressing anxiety of countenance and manner—the open mouth, filled with ropy saliva—the frequent but fruitless efforts to vomit—the paunch of the ruminant and the belly of the horse distended with gas; these are symptoms that can scarcely be mistaken. If, however, there were doubts about the matter, there are experiments which will determine the matter. If a little warm water is poured into the



mouth of the animal, the presence of a foreign body will prevent the deglutition of it, and the diagnosis will be no longer doubtful. M. Gellé says that he has saved the lives of two cows by this simple experiment. The symptoms were obscure. The proprietors had not seen the animals swallow any large or hard body, but the return of the fluid put an end to all doubt; and, by means of the probang, the foreign body was driven on into the paunch, and the patient was saved.

M. Gellé concludes this chapter by observing, that it is always dangerous to cast an animal that is blown, for there will be, too often, some mortal rupture, whether of one of the stomachs or the diaphragm; therefore, before he casts them, he uniformly punctures the paunch. He adds, "the operation of œsophagotomy ought always to be the *dernier resort*, and never to be practised until all other means have failed. I am astonished to hear a veterinary surgeon say that he has had recourse to it, on account of an apple becoming impacted in the gullet. He surely had neglected to apply a little oil in order to make it pass more readily through the canal. When, however, the foreign body is irregularly formed, as are some potatoes, turnips, and other roots, and that often have their extremities bent or convoluted, or that are evidently too large to be forced along the gullet, then the sooner the operation of œsophagotomy is performed the better; for, in attempting to force such bodies on, we are but uselessly fatiguing the animal, or needlessly rupturing the œsophagus."

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## THE DESTRUCTIVE EFFECT OF NEW WHEAT ON SHEEP.

*By Mr. JOHN HAWES, V.S., Taunton.*

IN the month of September in the last year, a flock of sheep, more than 200 in number, strayed into a field where was a quantity of wheat that had not been carried in consequence of the unfavourable state of the weather. They fed rather bountifully on it before they were discovered by the shepherd, when they were immediately removed to the pasture on which they had previously been grazing, and no further notice was taken of them until the following day, when four of them were found dead, and several others were evidently ill. To all that evinced any symptoms of disease, Epsom salts and castor oil were immediately given: but on the following morning, finding that twenty-eight had already died, and nearly as many more were almost dead, the owner sent for me, as is too frequently the case, when it was too late to be of much service.



The first thing that I did was to examine some of those that had died, and I found the rumen in every instance filled with wheat, barley, and straw; the abomasum highly inflamed, as well as the bowels; the spleen had the appearance of a mass of coagulated blood, its structure being entirely destroyed; the lungs, in most of the cases, presented a healthy appearance, as did also the liver. Fifty-eight died in the course of five days after eating the wheat. The others were bled, and half a pint of linseed oil given to each, and they recovered, but many of them have since thrown their lambs.

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## OBSERVATIONS ON NIMROD'S OPINIONS RESPECTING ROARING, AND THE DIET AND SHOEING OF THE FRENCH HORSES.

*By Mr. JOSEPH SEWELL, V.S., Strand, London.*

I HAVE always felt amused and interested in the perusal of the able and sportsman-like writings of Nimrod, particularly when he is engaged in his favourite theme, the summering of hunters; and I find in his paper on various subjects, in your September number, that he is still unwearied in his exertions, and endeavouring to convince the sporting world of the injurious effects which attend the turning-out system. The facts which he has there stated would appear to shew the evils resulting from such a practice, and which farther experience seems to confirm. I allude to the number of roarers which he has detected in the various studs of hunters that he has lately visited.

He naturally asks the cause of all this. It cannot be the grass-field alone; although, doubtless, the system of turning-out, which is so generally adopted, when combined with a predisposing cause, is too favourable to the development of the disease in question, and which, probably, might not appear were the animal *summered* on Nimrod's plan. With me it is a matter of doubt whether roaring is ever found to originate from turning-out alone, unless under very peculiar and rare circumstances. We must have alteration of structure and function in either the larynx or trachea, or both, to a certain extent, in order to constitute a confirmed roarer. The terminations of various inflammatory complaints of the respiratory organs, as catarrhal sore throat, &c., too often leave the foundation of the complaint. The influenza, too, has laid the seeds of roaring in many instances, and may have done so in some of the cases referred to by Nimrod. The alterations of structure are not to be immediately detected on the termination of any in-

inflammatory disease of these parts; and from this circumstance it is, that horses turned to grass supposed to be sound, and apparently free from any predisposition of the kind, come up roarers. If the observer had not been deluded by this, the seeds of roaring might probably have been traced to other causes than the effect of summering. When we consider what the hunter has at times to undergo, in a long distressing day and severe run, perhaps ridden almost or quite to a stand still, and observe the violent excitement and action which the respiratory organs are then called upon to sustain, we might easily imagine that some derangement of parts will occasionally ensue, of sufficient consequence to form the basis of this complaint, and which, by turning-out, will be more fully developed.

I do not mean to deny that roaring would not take place under the ordinary circumstances, if the animal was not turned out, because I am aware that it does so in many instances; but the run at grass seems principally conducive to its full establishment. Why it should be so, I will not presume to determine. It may be, that the position of feeding has something to do with it. The stomach, bowels, and general habit also may become too much filled and oppressed, which, at all times, renders the slightest defect of the kind *more marked*.

Diet and regular feeding has much to do with general health, as well as with *wind* and *condition*, and this with reference to the quantity as well as the quality of food; all of which cannot be so well regulated as under Nimrod's soiling system. A cool and roomy box, or shed—the former would be preferable—with occasional walking exercise, or a few hours' run in a paddock, would be more conducive to the *general health, soundness, and condition* of hunters than an exclusive run at grass.

On the subject of diet Nimrod expresses a wish to try wheaten straw in the place of hay, having observed its very fattening and strengthening properties among horses in France. I have heard the same thing remarked by other gentlemen,—that French horses, although eating nothing but wheaten straw, are yet fat and in prime condition. That the quality of the straw of that country should be so different from what is found in our island is to me very remarkable. It is a rule or a prejudice among us, that if any mode of feeding and keeping horses is to be avoided more than another, it is a straw yard, unless some other provender is added to the straw. I can only reconcile the difference in this way, that straw in France may be very badly threshed, and, consequently, contains a considerable portion of grain.

Wheat is very fattening, and horses will thrive quickly when a small quantity is mixed with other food. It produces a firm con-

dition, with a fine sleek coat, but, when eaten immoderately, I have seen it attended by very serious results.

This brings a circumstance to my recollection that happened to some gentlemen after a hard day with the late Dowager Marchioness of Salisbury's hounds. Being anxious to obtain some refreshment for their horses, they stopped at a farm-house, and, as no oatmeal could be procured, they substituted flour, and suffered their horses to drink copiously of flour-gruel. On their return home every horse was affected, and some to a considerable extent, with spasms of the stomach and bowels, exhibiting symptoms resembling those which I have noticed after eating a quantity of wheat.

Wheat-straw is used advantageously for slow-working horses, where distention of the bowels is of very little importance, by cutting up one-fourth, or even a third, with rich clover for chaff, and giving nothing in the rack. To this I have been a frequent witness. Where horses are eating half a bushel of oats and beans daily, a mixture of straw in this way I consider conducive to a more healthy digestive process. How far it might be used for hunters or race-horses is doubtful, as with them a diet that contains the largest portion of nutriment in a small compass is desirable. It might be worth a trial.

Nimrod also feels naturally interested upon the subject of shoeing, and has made some remarks on the different systems of French and English shoeing, as operating to produce the comparative different extent of lameness which is represented to exist between the horses of the two countries.

It must be admitted that the art of shoeing has greatly improved in this country; and, if a comparison could be made between the extent of lameness existing now and forty years back from the effects of shoeing, the balance in favour of the present system would be very considerable. Various causes, however, not altogether connected with shoeing, combine to produce lameness in the feet of horses in this country; but, as far as the art of shoeing is concerned, we are most likely to improve by selecting such methods as are best adapted to the action of the foot.

Among the various improvements in general practice are the seated shoe, the outward bevel of the heels and quarters, the one-sided nailing, the leather sole, and the French method of nailing to a certain extent. Added to these, so far as my experience goes, and not much inferior in practical advantages to either of the former, is that remarkable feature in the French shoe, the bevelled or raised toe, so particularly described by Mr. Goodwin. The bevel should not be simply at the toe, as the shoe naturally wears, but should commence from the anterior part of the quarters, increasing gradually to the toe: it tends to give the foot a better ground po-

sition, and adds greatly to the ease, freedom, and safety of action. It is also very much in accordance with the action of the coffin, navicular, and pastern joints, relieving them from that abrupt toeing concussion occasionally so unpleasantly felt on riding horses shod on our common English plan, which is a perfect level from toe to heel. In my estimation, the bevelled toe connected, according to circumstances, with our modern improvements, constitutes the most perfect shoe for a roadster, and would tend to obviate one great evil, which I have often noticed in the shoeing of hunters—suffering the foot to grow too much to toe.

A sportsman, ever anxious to avoid losing a shoe from overreach, directs his horse to be shod very short at heel; the heels, consequently, grow obliquely forward, and the toe long, giving the coffin and navicular joint a very unnatural position—the anterior part of the coffin-bone becoming elevated from a superfluous growth of crust at the toe, the leverage of which must distress and injure the navicular joint, and render the back tendons more susceptible of being strained.

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## MR. MORTON'S INTRODUCTORY LECTURE ON CHEMISTRY.

ON Monday evening, the 10th of the last month, we had the inexpressible pleasure of hearing the first chemical lecture which has been delivered in the Theatre of the Veterinary College since the erection of that building. The interest of the pupil, and the demand of plain common sense, have at length prevailed; and a course of lectures on the principles of chemistry, and their connexion with veterinary therapeutics, has been commenced, under the sanction of the Council, by our excellent and talented friend, Mr. Morton. In the name of the pupils and the profession we cordially thank the Governors of the College for this boon.

Mr. Morton was surrounded by many of his old friends, and the theatre was crowded with the pupils.

“The period has at length arrived,” said he, “when the Governors of this Institution have determined that Lectures on Pharmaceutical Chemistry and Veterinary Materia Medica shall be delivered within its walls; and, while I hail with exultation this boon to the student and the profession, I cannot help reflecting on the feebleness of him who has been appointed to communicate instruction on these all-important divisions of the studies of the veterinary pupil. It is true, that the importance of these subjects has been long impressed upon my mind; and I have not been a

stranger to the wants of the student; yet I feel the weight of the responsibility which rests upon me, and all that I can do is to pledge myself to use my best exertions to fulfil the duties of my new situation, and not to disappoint the expectations of those of whom it has been my good fortune to possess the confidence, and who urged me on, when I hesitated, and scarcely dared to venture to accept of the appointment."

He then adverted to the form under which his instructions would be given—that of lecture; which had its advantages with regard to most of the sciences, and which was imperative here; for it was the duty of the teacher to exhibit before his pupils the various substances employed in the treatment of disease, and to shew how their affinities and their power were modified by many an unsuspected circumstance. The experiments, too, which accompanied a lecture not only arrested the attention of the student, and afforded the best proofs of the doctrines inculcated, but awakened his curiosity to search farther into the nature of the subject which they illustrated, and led him step by step to the knowledge of general principles, and to the possession of the most useful and brilliant truths; yet unless the student, by subsequent and earnest thought, made the subject a part and parcel of his mind, if he might so express himself, lectures would be of little worth to him.

The lecturer next adverted to the necessity of reading *after* the lecture. This would give it increasing interest, and cause it to make a deeper impression on the mind.

Next to this was mutual instruction. He was pleased when he saw the students associating together, and good-humouredly *badgering* each other. "Iron sharpens iron," and by attrition a genial flame is readily enkindled.

He then returned to the immediate subject before him. "Medical Chemistry," he said, "is but a branch or division of general chemistry; but the same remark will not apply to materia medica and therapeutics, or that division of medicine which treats of the application of drugs to the eradication or alleviation of disease; and yet the principles of this division of science cannot be acquired without some acquaintance with those of chemistry. Still, however, it is my opinion that the time is not far distant when the general application of chemical laws will be taught here, and then materia medica and therapeutics will form a distinct course. My intention, in the present course, will be to make you acquainted with the principles of chemistry, only so far as they are necessary to elucidate the science of medicine. I shall not, however, refuse myself the gratification of dwelling, from time to time, on several of the phenomena of nature which receive explanation by a reference to chemical laws, for you ought not to be ignorant of these

things, and you will estimate their worth in after-life. I am also perfectly assured that the knowledge of the veterinary surgeon is required to be far more varied than it, at present, is, since he is without many of those aids which the medical man receives in the pursuit of his calling.

“His knowledge, therefore, should be even more extensive than that of the human practitioner; for he is more closely connected with agriculture—with the quality of the soil, and with the character and value of many more of its productions.

“The object of chemistry is the investigation of the laws which govern the constitution of bodies—the properties of the elements which make up the mass, the integrity of which is maintained by a force opposed to chemical action—the explanation of the changes which take place when substances dissimilar in their natures are brought together, by which their mutual decomposition is effected, and new substances are formed; and, finally, the resolving of a compound body into its constituents.

“The phenomena which attend chemical experiments are oftentimes most extraordinary, and, occasionally, altogether inexplicable. Masses of matter may remain together for days or for ages completely inert, until, suddenly, some new chemical affinity is exerted, and, then, in an instant, the most unexpected and violent and alarming action is produced. It has been compared to spirits evoked by the spell of the magician, which cannot be approached without danger of destruction. The result is the formation of a new compound altogether dissimilar from the substances operated upon. At other times we perceive no visible effects. Silently and slowly the process goes on; but the result is the same. Some new principle has been evolved which may be rendered useful in a thousand ways.

“The immediate cause of all this is unknown, and, for aught we know, may remain so to the end of time. This is no fault of the cultivators of the science of chemistry, who have comprised in their list men of unwearied industry, and of the highest and most varied talent, but of the inherent complexity of the subject, and the infinite multitude of causes which are concerned in the production of every, even the simplest chemical phenomenon.”

Mr. Morton now gave a rapid but most interesting sketch of the history of chemistry, commencing from the epoch of the alchemists—thence proceeding to the times when the phlogistic theory of Beecher and of Stahl prevailed, and terminating in that which may be emphatically and broadly designated “modern chemistry.”

After many an interesting elucidation of the immense advantages derived from the application of chemistry to the arts and manufacture, and agriculture, and, in fact, to every thing connected with the progress of science and the comforts of life, he proceeded to the



last division of his subject,—more pleasing and more important to those whom he addressed, for it was coming home to their business and bosoms,—the application of the principles of chemistry to medicine. “The remedies,” said he, “that were first employed in the treatment of disease were mostly simples, or, if chemical compounds were occasionally administered, they were not such as were prepared by art, but found native. Thus, carbonate of soda was abundant on the margin of lakes, and nitrate of potash effloresced on the soil.

“The medicinal effects of numerous vegetables were early recognized; but, in order to derive advantage from them, it was necessary to administer them in very considerable bulk. One of the great advantages obtained by a knowledge of chemistry was the method of extracting the active principle, and discarding the bulky mass,—at all times inconvenient, and occasionally preventing the full development of the power of the chief agent. The application of opium, of the vomic nut, and of various other agents, has been thus rendered more simple, and manageable, and effective.

“By the aid of chemistry we obtain other and more potent agents from the mineral kingdom. The two useful preparations of mercury—calomel and corrosive sublimate—are apt elucidations of the union of a metal with an elementary substance. In the compounds of antimony, and copper, and zinc, we have farther illustration of our subject; and in the numerous class of substances, most safe and useful, termed salts, we have the most important exemplification of the triumph of chemistry. There are several of these which Nature never gave to us, at least in a sufficient quantity to be available for the use of man.

“To chemistry we likewise owe the power of increasing the potency of our remedies by the judicious combination of various substances; and, on the other hand, when the nature of the disease requires it, we can, by our knowledge of chemical laws, reduce the most powerful of them to the precise degree of strength which we require.

“It is to the neglect of the study of chemistry that the introduction of many gross and barbarous compounds, by some who call themselves veterinary surgeons, is to be traced. Wherever a multitude of agents are jumbled together, as in the greater part of the old recipes, and too many of the modern ones, the result often is the neutralization of some of the most important principles, or the formation of a new agent of deleterious influence. The solution of the acetate of lead and the sulphate of zinc has been employed as a collyrium, but they who use it forget the decomposition which takes place on admixture; in like manner, the tincture of opium, to increase the sedative power of the lead: but what is the consequence? The active principle of the opium is precipitated

in an insoluble state. Of somewhat the same character are the combinations of alum and the sulphate of copper with chalk, as astringents, and those diabolical compounds of sulphuric acid and the fixed and volatile oils.

“I remember one case which occurred to me when a boy. A village farrier—one of the old school—was desirous of procuring a stimulating liniment for a cow with garget. ‘Now, my lad,’ said he, ‘mix together so much olive oil and spirit of sal ammoniac; add to this some oil of origanum—of course, some laudanum, and a little oil of turpentine. Ay! that will do. But stay! this will not be quite strong enough: pour in a little oil of vitriol.’ I did so, and I suffered for it. The disengagement of heat was so great, that the bottle burst in my hand, and I became covered with the farrier’s most unchemical compound. Now, had this man been in the least conversant with chemical principles, or had I at that early age, we should not have committed so disgraceful a blunder.

“Connected with this is another circumstance of which you should be aware. It is no uncommon thing for the dregs of all kinds of tinctures to be preserved by the wholesale druggists, and, with the waste of their warehouses, to be sent to the drug-grinder, in order to form the compound powders so much employed by those of the old school. At other times, one part of the genuine root or seed is mixed with seven of meal, or of some farinaceous matter, and coloured and scented *secundum artem*. A knowledge of chemistry will enable you to detect many of these impositions; and, as an additional guard, I would urge you to purchase all your drugs in the bulk, and as they are imported; and then, if you purchase from a respectable druggist, and give a fair price for the article, you need not to fear its adulteration.

“In chemicals, and such substances as undergo a certain preparation, the amount of adulteration used to be, and, among some persons is still, enormous. Aloes are mixed with resin and lamp-black—the balsam of copaiba with turpentine and resin—iodine with plumbago—the sesqui-sulphuret of antimony with the same substance—mercurial ointment has contained little more than lard and colouring matter of various descriptions—calamine has been found to consist of the sulphate of barytes coloured with iron—the ergot of rye has been mixed with little masses similar in appearance, but made of the plaister of Paris—calomel has been adulterated with the sulphate of barytes, and even corrosive sublimate has been detected in it—the essential oils have been mingled with the fixed, or with alcohol—acetic acid with sulphuric acid—the nitrate of silver with the nitrate of lead; and the dregs of the tincture of opium bottle have been dried, and pounded, and sold as the pulverized drug.

“These are some of the tricks practised by the designing on the

unwary, and the only means that we have of detecting them is by appealing to the principles of chemistry. Thus sulphuric acid detects the nitrate of lead in that of silver, and the barytes in the carbonate of zinc—lime-water will expose the mixture of corrosive sublimate with calomel—the barytic salts the presence of sulphuric acid in the acetic acid; while melting will render evident the colouring matter in the mercurial ointment; and solution, the additional resin in the aloes. Equally easy tests may be had recourse to for the detection of most of the other adulterations, and this is one of the many reasons why chemistry should be taught in our medical schools.

“What shall we say of the aid of chemistry as counteracting the effect of poisons? Cases of poisoning do, although somewhat unfrequently, occur in our practice. The poisonous effects of corrosive sublimate may be counteracted by the exhibition of albumen or the white of eggs—the preparations of lead by the sulphate of soda, and of copper by sugar—of emetic tartar by astringent vegetables; and although we have no assured antidote for arsenic, the tritoxide of iron, or a solution of lime, may be tried conjoined with the free use of diluents.

“Where death has taken place in consequence of poison being administered accidentally, or from motives of revenge, or from the abominable practice of quackery, the agent can now, with almost certainty, be detected by ‘chemical analysis of the substances found in the alimentary canal.’”

Our lecturer now reverted to another and most important division of his subject,—the application of chemical science to the phenomena of life. We regret that the limits of our Periodical will not enable us to follow him here. His explications on animal heat, respiration, digestion, and the various acts of life, were beautifully simple and satisfactory. We content ourselves with, or, rather, we can only find room for, his concluding observations.

“Allow me to repeat that, in your pursuits in after-life, the early study of the science of chemistry will be fraught with the highest advantage. It has been well remarked that learning, if rightly applied, makes a young man thinking, attentive, and industrious—confident and wary; an old man cheerful and reserved. It is an ornament in prosperity, a refuge in adversity, and an entertainment at all times. It cheers in solitude, and, in the language of Bacon, *is power*.

“Each age should be progressive in knowledge. From you will be expected more than from those who have gone before you. You have had not only greater privileges than they, but there is the benefit derivable from their experience. It has been well observed by Sir John F. W. Herschel, that ‘there is scarcely any well-informed person, who, if he has but the will, has not also the power to

add something essential to the general stock of knowledge, if he will only observe regularly and methodically some particular class of facts which may most excite his attention, or which his situation may best enable him to study with effect.'

"There is another circumstance of which a man possessed of comet feelings, and an educated mind, will not lose sight,—the reciprocal advantage arising from the intercommunication of knowledge. He gives and he receives in return. The imparting of knowledge, like mercy, is twice blessed;—it blesses him that gives and him that takes. It may rank among those feelings and occupations that most ennoble man. The withholding of information—let some of our brethren lay this to heart—evidences a sordid and a shallow mind. It is found with him alone whose limited powers are incapable of appreciating the consequences which as certainly follow, as any effect from an adequate cause. Such a character is enclosed in the narrow circle of 'self,' and, wherever he is found, is regarded with mingled pity and contempt.

"I am addressing those whom I shall have the pleasure of ranking as my pupils, and they will rightly estimate the feeling which induces me to wander beyond the limits of a mere introductory lecture on a certain art, and to talk to them of their duties and their privileges, as devoted to the general acquisition of knowledge.

"As you pursue your studies, be circumspect in the choice of your associates. Shew me the company which a young man keeps, and I will tell you what is the present character and what will be the future fate of that man. This is a principle as true as it is trite. It is a moral impossibility for any human being to avoid being influenced for good or ill by those whom he selects as his associates.

"Take as illustrative one of the beautiful apologues of the Persian moralist, Saadi. 'A friend of mine put into my hands a piece of scented clay. I took it, and said to it, Art thou musk, or ambergris? for I am charmed with thy perfume. It answered, I was a despicable piece of clay; but I have been some time in the company of the rose, and the sweet quality of my companion was communicated to me.'

"Most earnestly would I urge you to avoid the insidious sophistry of those who endeavour to allure you into a path seemingly strewn with roses, but, in reality, beset with thorns—who wish to make short work of study—who tell you that no compensating good results from a continued application of your mind to study—that you should relax a little, and that by-and-by there will be time enough to learn all that is required. Fatal delusion!—a rock on which thousands have struck. Remember that I earnestly guard you against it.

"If it is true that 'knowledge is power,' so is its antithesis, that

‘ignorance is weakness.’ You will sooner or later find it so. The delusions which many practise upon themselves will, ere long, pass away. Appearances may be fair to the eye, but they will prove like the apples of Sodom, which, when bitten, fill the mouth with ashes.

“Although the study of every science presents at first many difficulties, yet, if a resolution is formed to overcome them, and the mental energies are directed to the accomplishment of that object, they speedily disappear, and, like an aerial vision, leave not a trace behind: or, to adopt another comparison, although in the road of science, conducting to the temple of well-earned fame, there may be many asperities, and seemingly impending dangers, they are far more imaginary than real, and, by perseverance, the one may be rendered smooth and the other avoided, while the flowers which luxuriantly grow along the path will regale and refresh the senses.

“And now, lest any words of mine should have fallen listlessly on the ear, I will close with the soul-stirring exhortation of Dr. Gregory in his address to his pupils, when he was retiring from the Professor’s chair.

“ ‘If knowledge is power, and you love power and influence—pursue it.

“ ‘If knowledge carry in its train extended usefulness, and you love to be extensively useful in your profession and in the world—pursue it.

“ ‘If knowledge, united with uprightness, brings esteem and confidence, and you love to be esteemed and confided in—pursue it.

“ ‘If knowledge, rightly conducted and directed to noble ends, brings you nearer to the fountain of wisdom, and thus makes you more happy, while it enlarges your capacity of conferring happiness upon others, and you love to be happy and to confer happiness—pursue it.’ ”

## A CASE OF RABIES IN A FOX.

*By Mr. F. KING, jun., V.S., Stanmore.*

TRUSTING that the history of any case at all connected with that dire disease, rabies, will be interesting to your readers, and, perhaps, more particularly so to yourself, I am induced to send you the history, so far as I am able, of one that has just come under my immediate notice: but, first, I may say that I have suffered more from that disorder than many other persons, having lost five pointers and a spaniel, all of which, with the exception of one, I knew to have been bitten. Some of my professional brethren may say, “This must have been his own fault.” Possibly it may. How-

ever, the case which I now more particularly allude to is, that of a fox which had been a pet of mine for nearly three years.

On my returning home, after having been a few days absent, my servant told me that my fox was very unwell. I went to see him directly, and found him in his kennel, trembling, and looking very dirty, and apparently unconscious of my being close to him. I pulled him out, and from his appearance I thought it might probably arise from the extreme coldness of the weather, having, during the previous winters, kept him in a warmer situation. I opened his mouth, and examined him thoroughly, and gave him some victuals, a small portion of which he ate, but he did not seem either to masticate or swallow well, and appeared as if he scarcely knew what he was about. I desired the man to take him into the stable, and give him plenty of litter.

When I first pulled him out, he seemed as if he could scarcely stand; but when he was made to move, and found that he was going to his old quarters, he roused a little, and went along pretty strongly, and, as soon as he got into the stable, tried to jump up into the manger as usual, but failed.

There was a peculiar expression of the eyes, but this did not then rouse any suspicion as to the real nature of his malady. However, after he had been in the stable a few minutes, he began to tear the straw, and now and then he tried to hide himself in it, and then, after moving backwards and forwards the full length of his chain, he would drop suddenly down. If I laid hold of his chain, he would lie down, and allow me to pull him about as I pleased, but at the same time I observed that there was a degree of slyness in his countenance.

These circumstances began to arouse my suspicion, and I tried whether he would seize any thing, by moving a piece of straw backward and forward near him, which, as soon as he caught sight of it, he eagerly darted at. He would then bite the straw around him, and lie down as before.

After I had mentioned my suspicions, my man<sup>n</sup> told me that he had seen him biting and shaking his chain the day previous. He continued in that state through the day, occasionally moving backwards and forwards, and seizing his straw or any thing else that was placed near him: he gradually got weaker, and at night died. As I said before, there was a peculiar expression about his eyes, yet they were very clear and bright. His respiration was much quickened; but I do not recollect hearing him once attempt to bark.

I could not tell, at first, how to account for this; but, upon inquiring, one of the maids told me that she recollected, in the middle of the night, between a fortnight and three weeks before, being awoken by the fox making a great noise, as if he was fighting with



something or other, and, on looking out of the window, she could just distinguish some small animal running from the kennel where Pug was; after which she heard no more of the noise. What that animal was, whether dog or fox, I could never discover; yet, from the appearances altogether, and the time that elapsed between that circumstance and the time of his death, I can come to no other conclusion than that it was a case of rabies, and one which I may never have an opportunity of seeing again.

In many points it resembled that of the dog, with the exception of that excessive sly expression of his countenance, and his allowing himself to be pulled about. I regretted that I did not make a post-mortem examination; but having an old friend, a naturalist—Mr. Pellerin, in Great Russel Street, who wished for any thing of the sort that I could procure him—I sent the carcass to him.

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[I am glad that I can subjoin the following elucidation of the interesting case related by Mr. King. It is translated from "*Magazin für die Gesammte Thierheilkunde*," 1839, p. 184.—Y.]

*Cases of Rabies communicated to the Human Being and to the Horse by the Bite of Rabid Foxes. By PROF. HERING, of the Veterinary School at Stuttgart.*

Until lately but little notice had been taken of the number of cases in which rabies has been propagated by means of rabid foxes; but these at length became so frequent, particularly in the southwestern parts of Germany and in Switzerland, that the government was compelled to interfere, and issue certain edicts for the purpose of controlling the spread of the contagion. It was generally believed that the disease communicated by foxes was quite a different species from that usually denominated rabies, for it seldom appeared alone as in dogs, but was accompanied by some other disorder.

In the Wurtemberg records of the prevalence of rabies, under the head of foxes we find the following cases:—About the end of April 1815, a fox, prowling round the hen-house of the Sec-haus farm, Leonberg, had a battle with the cat belonging to the house. This latter animal bit a servant-maid, who had the care of him, on the 21st of May. Four-and-twenty hours were suffered to elapse before any preventive means were made use of; and on the 25th of August the disease began to shew itself with all its usual symptoms, as horror of water, &c., and she soon died. The cat was destroyed the day after it had bitten her.

A similar case is recorded of a child, that while playing in a field near Morsburg, on the 17th of August 1828, was bitten by a

strange cat, and in spite of all proper medical precaution died of hydrophobia. From all that could be ascertained of the cat, it appeared that it had been bitten by a fox.

From the communications of Drs. Streif and Henseln, of the Canton of St. Gellen, in the years 1824 and 1825, where this disease was very prevalent, we learn that many dogs, cats, cattle and goats, and particularly cats, were inoculated by rabid foxes.

In March 1825, two diseased foxes came to the kennel of Mr. Weber, of Nettstall, in the Canton of Glarus, in which was a bitch and two puppies. She was bitten by them, and became rabid about the end of April, when she bit her master, her own puppies, and several more dogs. M. Weber immediately called in medical advice; but hydrophobia supervened on the 9th of August, and he died in a few days.

Franque relates a case of a terrier bitch that was bitten by two foxes, and became rabid about two months afterwards; and biting a cow, which shewed symptoms of the disease in less than twenty-four days.

Michel, of Zurich, observed a case of rabies in a three-year-old ox that had been bitten by a rabid fox.

Hübner relates a case in which a pig and a goat were inoculated by a rabid fox.

There are many other cases related in the Wurtemberg records in which rabies has been traced to the bite of a fox, or to fights between dogs and foxes; and has usually appeared in the animal about four, five, or six weeks after the inoculation. One of the dogs thus infected found its way into a cow-house, and bit four of the beasts, all of whom died rabid about the same time.

It would be easy to multiply the number of these cases, were it necessary to do so in order to prove the identity of the contagion communicated by foxes with the disease known as rabies.

Among the cases, however, that have been hitherto narrated, there is not one in which the disease has been communicated at once to the human being by a fox; nor is there one in which it is communicated to the horse. I shall therefore now relate the following two cases to fill up this hiatus.

**CASE I.**—*Hydrophobia in a Girl aged 13, following the Bite of a rabid Fox.*

On the evening of the 10th of August, 1836, the daughter of Herr H——, aged 13, and a labourer, aged 55, were bitten by a fox that had got into the garden. As soon as the girl heard that there was a fox in the garden, she ran out to drive him away. At her approach the animal slowly retreated about 200 paces, and concealed himself in the bushes that divided that garden from a neigh-

bour's. The girl followed him until she remarked that he seemed about to spring on her, and before she could get away he did fly upon her and bit her, first on the face and then on the left arm. The girl caught him by his ears, and confined his body with her feet, and thus, in spite of his struggles, she firmly held him, until her cries brought the labourer and a neighbour to her assistance. The former quickly seized the animal, and in so doing received a bite on his left hand; while the latter killed the fox with a heavy stick. Little or no notice was taken of the young girl's apparently slight wounds; they were merely washed with brandy, and bound up with dry limen.

A few days afterwards, when a surgeon was called in, he found the wounds in the girl's face and arm already partially healed; but that on the hand of the labourer being much deeper, had not begun to close.

On the post-mortem examination of the fox the teeth were found to be very much decayed—the cavity of the skull broken in—the gullet dry and pallid: there were no vesicles on the tongue—the fauces and the heart in their natural state, as was the pericardium and the lungs. The mucous membrane of the trachea a few inches above its bronchial division was of a red-cherry colour, as were the bronchi; and at the bifurcation of the trachea there was considerable inflammation. The larger curvature of the stomach was half-filled with food, and the mucous membrane covered with a dark-red coloured serosity. It contained part of a young hare, undigested, and several balls of the hair of animals, which he had eaten. The mucous membrane of the left half of the stomach was of a bluish-red colour, and very much inflamed. The spleen was a uniform dark-green colour. There were numerous yellowish-red spots on the liver. The gall-bladder was about half filled, and its contents resembled Malaga wine. The mucous membrane of the whole intestinal canal was almost uniformly inflamed, and of a dark-bluish-red colour, deepening at times to black. The mucous membrane contained spots of inflammation. Beside some greenish mucus, several balls of hair were found, and a little half-solid excrement in the lower portion of the intestines. The bladder was empty and quite healthy. One testicle was about the size of a hazel nut, and the other that of a small apple. On cutting into the latter a great number of hydatids escaped.

Both the bitten persons were now placed under medical treatment. The wounds were deeply scarified, and washed with butyr of antimony, and suppuration obtained by the application of a vesicatory.

The girl appeared to be going on well for more than three weeks, but on the 6th of September, about two o'clock in the morning,

she was seized with vomiting, threatened suffocation, shortness of breath, and violent palpitation of the heart; and soon afterwards with convulsions of the limbs, horror of liquids, of light, and of the slightest current of air falling upon her. Her tongue was white and furred, but without any appearance of pustules; a frothy saliva was frequently ejected from the mouth; the pulse was small and weak, but of its usual frequency; the evacuations and urine continued unchanged. The wound in the arm was of a leaden colour, but not painful. There appeared to be scarcely any disposition to do mischief; and her intellect continued unaffected until her death, which took place about thirty-six hours after the first appearance of the symptoms. She died without a struggle.

The labourer has never suffered much from his wound, and still remains perfectly well.

#### CASE II.—*Inoculation of a Horse by a rabid Fox.*

During the winter and spring of 1836 and 1837, there were a great number of rabid foxes in the neighbourhood of Ulm. On the 6th of December 1836, one of them bit a bull-dog belonging to a peasant; and, shortly afterwards, another dog, belonging to the schoolmaster. Both these animals were immediately destroyed. On the same day, a dog belonging to the miller was bitten; and the fox was shot by a sportsman who chanced to be passing that way.

On making a post-mortem examination of the fox, he was found to be in good condition. There was much inflammation in the throat and salivary glands, and less in the air passages. The chest was filled with black blood; the lungs inflamed; the stomach contained undigested hay, small stones, and a few round worms; and the intestinal canal some dry and well-digested fodder. The liver was pale and soft; the gall-bladder full of glutinous fluid of a strong unpleasant smell; the spleen healthy; the kidneys partially inflamed, and the genitals (male) in their natural state.

In another fox which had bitten a ban-dog, and was killed on the same day, the respiratory organs and the intestinal canal were found to be perfectly free from inflammation; and among the contents of the stomach were pigs' bristles, horse-dung, and some sand.

On the 12th of April, the house-dog belonging to Herr F., in Holzhausen, had a battle with a fox suspected to be rabid. The owner caused the dog to be immediately destroyed.

On the 7th of May, a fox bit two dogs belonging to Herr R.; they fought with and succeeded in strangling their antagonist. The dogs were ordered to be destroyed. On a post-mortem examination of the fox, the throat, salivary glands, and stomach, were found

to be inflamed; the gullet was full of straw. In the stomach was a quantity of glutinous dingy-looking mucus, and in the intestinal canal a hard ball of hair, two inches in circumference.

On the 6th of May, 1837, a seven-year old black mare, belonging to Jacob S——, of Mechringen, was attacked by a fox, supposed to be rabid, and bitten on the upper lip, while standing in a field yoked to a dung-cart. The wound was about two inches long, but superficial. It was immediately examined, and washed with a mixture of sal-ammoniac and vinegar.

On the 8th, Herr Grebner was requested to see her. He found her lively, and with good appetite: the wound was neither inflamed nor swollen. He ordered it to be dressed with cantharides ointment, which caused some slight swelling; and, on the 12th, a healthy suppuration was going on. The mare was daily attended, and continued apparently in a state of perfect health, so that, at the commencement of June, Herr Grebner deemed it no longer necessary to continue the suppurative process, and sent word to the owner that the mare might return home. Some delay, however, occurred in fetching her; and on the 19th of June, without any apparent cause, the animal refused her food; had an anxious expression of the countenance; shook her head frequently; her eyes became inflamed, and with a yellow tinge; her gums were very red, and her mouth dry. The pulse was calm and uniform. Some blood was taken, and a cooling purgative drink administered, combined with emetic tartar; and this was followed up by clysters.

On the morning of the 20th, the countenance was much more anxious; there was an evident uneasiness about some part of the head; the eyes were staring, and the muscles of the face quivering; the ears were in continual motion, but she was not violent or vicious. The breathing was short, and the pulse slightly accelerated, small, and hard. On leading her into the open air she seemed uneasy; she looked anxiously about her, and pressed forwards. On being loosened, she trotted off, as if remaining in one place was irksome to her. The eyes and mouth became more inflamed. A second bleeding was practised. The blood flowed slowly, and was very dark.

In the afternoon of the same day, the restlessness increasing, the patient was turned into a spacious loose box, where she continued to pace uneasily round and round, shaking her head, and her eyes protruding from their sockets, until towards the evening, when she suddenly dropped as if she had been shot, and there lay quite calm and motionless. The breathing and the pulse became calmer, although the latter still remained small and intermittent: all consciousness seemed to be suspended. The sensibility of the head and throat was much diminished. and was altogether suspended in the other



parts of the body. There was no apparent wildness—no attempt to bite or kick—and very little foam was discharged from the mouth.

The animal lay in this state from the evening of the 20th to the 23d of June, quite motionless, neither eating nor drinking, and the jaws clenched so that no medicine could be administered.

On the morning of the 23d she became covered with perspiration, which had a strong disagreeable odour, as was also the case with her breath. Towards noon she died without a struggle.

On making a post-mortem examination, the following appearances were observable:—An indescribable stench proceeded from the body; the muscles were pale, very flaccid, and of an ashen-grey hue, and smelled like carrion. All the intestines were inflamed and flaccid. There was food in the stomach, although the animal had not eaten for four days. The liver was bloodless, flaccid, easily crushed, and of a grey colour; the spleen empty and flabby, but of its natural hue, and the kidneys slightly inflamed. There was a slight extravasation of serum in the chest; the left lung adhered to the lining membrane of the thorax. The substance of the lungs was soft, gangrenous, and stinking. The heart contained no blood. There was a small portion of serum in the pericardium. The membranes of the brain were inflamed, and the veins were filled with blood.

The symptoms and progress of these cases plainly shew that they are that species of rabies known in the dog by the term of “dumb madness;” and the early palsy which comes on causes the animal to be harmless, although for the whole continuance of the disease the animal may still retain a desire to do mischief. If we compare this case with the preceding one, we shall find several interesting variations. The girl retained her senses until the last moment, while the horse seemed perfectly unconscious. The former had a horror of water, air, and light, and an increased secretion of saliva, none of which symptoms were apparent in the latter. Both had a calm pulse (which I also found in a dog that had shewn symptoms of rabies for three days)—both had the same convulsions of the upper limbs and head, the same anxious look, and the same want of appetite; and both died quietly.

These cases tend to confirm the observations of Hertwig, Prinz, Delafond, and Youatt in his interesting communications on this subject published in *THE VETERINARIAN*—that the post-mortem examination is not always satisfactory. In the foxes, it was remarked that the almost sole pathognomonical symptom of rabies in the dog, viz. the presence of foreign bodies in the stomach, was often wanting; the spleen, also, in several of these cases presented no morbid appearance; but whether the inflammation of the throat, the salivary glands, the stomach, and the contents of the latter, are to



be received as unequivocal symptoms of rabies, my opinion is not decided. Of one thing, however, I am certain, that mere redness of texture arising from extravasated blood is too often mistaken for inflammation.

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## ON VETERINARY IMPROVEMENT—RED-WATER— DROPPING, &c.

*By* NIMROD.

Christmas Eve, 1839.

Dear Sir,—THIS being the season of universal congratulation and compliment, I know of nothing, save the Great Event itself, on which I can offer either the one or the other, to yourself and the profession, with more propriety and sincerity, than the successful endeavours now making to combine veterinary practice with agricultural science, intimately connected as they naturally are. When we reflect upon the extensive loss which the breeders and owners of cattle, sheep, and swine, annually sustain in Great Britain—to an amount I fear to state, because it would scarcely be credited—and the feeble exertion that has hitherto been made to diminish it, the importance and value of this step may be justly estimated by this class of persons, as indeed by the community at large. When also we consider to whose hands the majority of the diseases of the above-named animals have been committed, together with the not-to-be-doubted fact, that even the rude and indigested treatment administered by them has, to a certain degree, been successful, what may not be expected as the result of that which is based on anatomical and physiological knowledge of the diseased animal in the first place, and of a sound theory of medicine, and its operation, in the next? In the language then of my old friend Mr. Turner, “there is about to be a judicious application of the veterinary art to all domesticated animals;” and could they, by a faculty they do not now possess, be made sensible of this fact, how grateful would they feel for the announcement of it! When this “hitherto almost untrodden path,” as Mr. Spooner justly terms it, has been entered upon, the whole circle of veterinary philosophy will be complete.

Touching neat cattle—I have reason to believe that the disease called red-water, or the cause of it, is very little understood by the common cow-leeches throughout England. The cause is undoubtedly involved in much mystery in many instances. Within the range of my own experience, I have been at a loss to know why I should have two or three cases of it annually on one farm, and not one on another, though not more than a mile distant; and when I re-

sided in Shropshire, I could trace it to two particular fields, although unable to discover the cause. I do not recollect more than one fatal case, but a cow is seldom herself again for the summer in which she has been attacked, and thus a loss is sustained. I have, however, known several fatal cases; and I have reason to believe that its proceeding from a derangement of the digestive organs or liver is seldom dreamed of by common country practitioners. It is attributed to the kidneys only.

Then again, in cattle practice, the affections of the spinal columns are but little understood by the ordinary cow-doctor. For many years past I never attempted to buy a cow without pressing the thumb and finger along the spine, and, if she flinched, I left her alone. I learned this precaution, however, by mere accident, and do not think it is generally practised. My cows on one farm would become what is called, in Hampshire, "tail-soaken." They would be found down, and unable to rise; and the cure among our empirics was this:—an incision was made into a particular part of the tail, and a bit of old bacon introduced; the part stitched together, and all was well. I do not recollect a fatal case in my own stock, but knew several in the neighbourhood. I am not aware that the disease now alluded to was considered in reference to parturition.

During the last ten years of my residence in England, I must have had, at least, a hundred and fifty calves dropped from my own cows. I remember no case of puerperal fever, *stated to be such*; neither did I lose a cow, or even a calf, in parturition. The well-doing of the cows I attributed to keeping them well and *warm*, not suffering them to be out on wet days in the winter. Although I have never practised it, I have long been of opinion that all neat cattle would derive much benefit from being well purged twice a year.

As regards the form of, and aptitude to gather flesh in, cattle, I anticipate much benefit from the attention of scientific men being attracted to such points, and the result imparted to their agricultural neighbours. The anatomical knowledge of the regularly-bred veterinarian must serve him here; and the result of his researches into parts hidden to the common observer, added to the experienced touch of the grazier, must form a valuable guide in the purchase of animals to be fed. As far as my experience on the Continent has led me, butchers do not put a due value on the *touch*, which accounts for the too frequent hard nature of the beef from apparently well-formed and well-fed animals. I perceive, however, that the French government is about to ameliorate the native breed of neat cattle by the introduction of our short horns; and discussions on their relative merits have appeared in their *Sporting Magazine*, or *Journal des Haras*, as it is improperly called, inasmuch as it embraces all

subjects connected with sporting, as practised at present in France, which is becoming almost a sporting country.

Something was said by one of your correspondents, a year or two back, on the generally received opinion, that a heifer-calf, twin with a bull-calf, distinguished in the agricultural world as a free marten, will not breed. I can speak to one instance of barrenness in a fine short-horn Durham heifer, which I purchased with others, when on my Yorkshire tour, in 1828. She was put to five bulls, but to no purpose; and I afterwards learned that she was a twin with a bull-calf. When stalled, she fed rapidly, and paid handsomely for her keep. This notion prevails as regards the human race, but I can bring one instance that goes some way towards a refutation of it. My mother miscarried of a male fœtus, and went her full time with the female one—now alive and well, and the mother of seven children. In my midland tour of hounds, last year, I mention the case of a celebrated hermaphrodite hound in the pack of the late Earl Fitzwilliam, which I believe is a rare one in the natural world; and, as regards the free marten, I hope that some light will be thrown upon the subject by the researches of the veterinary profession, now they are so praiseworthily turning their attention to animals less noble but not less useful than the horse. In vol. 69 of the Philosophical Transactions, there is an interesting account of the free-marten by the celebrated Mr. John Hunter, in which its hermaphroditical peculiarities are established. From the dissection of three of these animals, it plainly appeared that they were all hermaphrodites, differing from one another; as is also the case in hermaphrodites in other tribes.

To return to the horse. What can all this roaring proceed from? I mean its very general increase amongst horses of all descriptions. Surely it must proceed from some unknown atmospheric agency. It cannot, I think, be attributed to merely the atmosphere and temperature of stables, forasmuch as were the former—in those of hunters and race-horses at least—put to the test of a eudiometer, it would be found to be pure, compared with what it was forty years back, when every hole and crevice, even the key hole of the door, was stopped up; and the latter is invariably lower by some degrees than at the period to which I am alluding. I perceive this subject is now occupying the attention of your profession; and I read Mr. Carter's Essay, and the detailed conversation which took place on its recital, with very great interest; as I did that of Mr. Turner, in which he produced a satisfactory case of obstruction in the nasal chambers as the cause of roaring, a circumstance that gave rise to several discussions amongst some of my sporting friends who have suffered by this scourge in their stables. They flattered themselves with the idea that, if such were the seat of the

malady, a cure might readily be found; but, alas! I fear the mischief ninety-nine times in a hundred will be found in less come-at-able parts. It is, however, consoling to find that a mode of treatment is pointed out by Mr. Carter with a possibility of success; forasmuch as I have hitherto not witnessed any attempt to cure a roarer, and can only speak to one case in which nature produced the cure—that of Mr. Thatchell's celebrated Black Sultan horse, which he purchased for £30, as a roarer, and refused 300 guineas for when as sound as when he was foaled\*. I speak from personal knowledge of the character of this horse; and in corroboration of the various causes of this disease and their effects, produced by Mr. Carter in his Essay, I can honestly say, that, although I never had a roaring hunter myself, I can name four of extraordinary character in the field, one of them (the late Sir Charles Warde's, Star) having had 600 guineas offered for, and refused. I possessed one whistler, who gave me an awful fall with the Craven hounds by being blown long before he ought to have been, and of course he was instantly drafted; and I possessed a hack that made very little noise at any rate of speed on hard road, but roared aloud when even trotting over tender ground, or against a hill.

It is a curious fact, that when one of our greatest and most successful breeders of race horses† applied to Mr. Cline, the late celebrated surgeon, for his opinion as to the cause and seat of roaring; and also whether—in reference to his breeding for the turf—the disease might be considered as hereditary in either horse or mare; the answer was, that “it could *not* be propagated, being merely a membranous projection in a part of the windpipe called the larynx, and a consequence of that part having been inflamed from a cold, and injudiciously treated during its existence.” This theory of Mr. Cline's has not been borne out in practice. Roaring has been proved to be a hereditary disease to a certain extent; and, perhaps, as strong a case as any in proof is that of Mr. Kellerman's Mary, by Precipitate, afterwards the property of Mr. Wilson, who produced three roarers by three different sires. Neither is Mr. Carter's assertion, that “it would be a rare thing to find a thoroughbred racing colt, or even a full-grown racer, a roarer,” borne out in experience, as each is a case of very common occurrence—perhaps to the extent of one in all large racing establishments‡. Neither is it my opinion that the bearing-rein, or any

\* Mr. Thatchell was a few years back at the head of the Somersetshire hounds, and one of the first horsemen of the present day.

† Mr. Wilson, Father of the Turf.

‡ Many race horses do not roar in their common gallops, and only when stretched out in a race.

thing of that nature, has much to do with roaring; and Mr. Carter admits that many four-year-olds, never harnessed, have come up from grass roarers. Besides, every horse's neck is bent when ridden—the race-horse, hunter, and hack; and although, as Mr. Markham observes, the racing colt goes with his head down, poking his head before him, it is only at times that he can do this, and not when restrained by the bit, as he must be, and is, in five races out of six—to say nothing of him in his exercise, when he is almost always restrained to regulate his speed with that of the rest of the string, undergoing a similar preparation.

Now, my opinion—worthless as it may be considered—of the cause of roaring is this; on the cure of it I shall be silent, although I see no reason why it should be considered hopeless. I do not think it is entirely unconnected with conformation of the parts which are the seat of it, or that there does not exist in some horses—as we know is the case with the human species—a greater delicacy of organization of their throats, and a greater tendency to inflammation in them, than in others; and, consequently, a very slight attack of cold or distemper, which would pass away and leave one unharmed, would leave the other either a roarer or a whistler—as, in like manner, we find a tendency to asthmatic complaints in particular families of our own race. The effect of one of these causes, however—the tendency to inflammation and its results—might, in my humble opinion, be greatly modified, if not rendered nugatory, by instantly stopping horses in their work on the *slightest* appearance of catarrh or sore throat; and this is practicable with all stabled horses, and should be put into practice with those of much value. Should, however, a cure be found out for this second curse on good horse-flesh—for it was distressing to me to see and hear of the number of otherwise sound and valuable hunters last winter rendered valueless by it\*—it will be the greatest boon of the many already conferred by the veterinary profession to the sporting world.

One word on ventilation of stables that may have some relation to the present subject. The mere use of the wheel ventilator on the window of a stable containing six or eight horses is insufficient for the purpose of preserving the requisite purity of the air, on which important point I am enabled to offer the following fact:—The celebrated Lavoisier found that, at the conclusion of a spec-

\* I rode no less than three *splendid* hunters, just in their prime, thus afflicted, their owners being quite at a loss to account for their affliction. Two of them, the property of Sir James Musgrave and Mr. John White (both of Melton fame), went amiss all at once, as did the other, the property of Lord Segrave; but the last-named horse can go well to hounds. The others are useless, except as hacks, or in harness.



tacle in the spacious area of a theatre, the proportion of oxygen, or vital air, was diminished one-fourth, and having the addition of a considerable quantity of carbonic acid. The latter evil cannot exist in a stable; but a diminution to this extent of vital air must be most injurious to animal life.

Descending to a point of apparently minor consideration, I am ready to admit that I have been much interested in the discussions which have lately been entered into in your Journal, on the subject of drenching horses, and the danger of it. "Eight out of twelve patients," says Professor Stewart, of Glasgow, "died from having had draughts administered to them! More than this, the remaining four were only saved by the treatment they were put under, and none of the whole number shewed any symptoms of the disease of which they died until after the draught had been administered." Now, I am quite aware, by what I have read, that danger *may* arise from drenching a horse, and especially with any pungent medicine; but what creates my surprise is, that I should never have heard or dreamed of this danger before. I would never give a draught to a horse when a ball would answer the same purpose, and for two reasons—first, a regard to the discomfort of the animal, which a nauseous medicine creates; secondly, because there is no absolute certainty of the entire dose being given. But how many horses of mine have had drenches given them? Why, I fear to say; but, having had some who would not take a ball, I have had recourse to the drenching-horn in such cases; and in scores of others—and particularly in flatulent colic or gripes—have given pungent and stimulating medicines, by the horn or bottle, without a single instance of bronchitis being the result. In fact, I have, at this time, a horse to whom no man in France can give a ball; and he has had four or five doses of aloetic physic by the horn within the two last years.

Now, as regards myself, what is the result of my perusal of this discussion? Why, I cannot help admitting that, although the facts stated by Mr. Markham relating to the horses in the stables of Messrs. Wimbush, during the raging of the influenza, together with the result of my own experience and knowledge, considerably shake my belief in the extent of the danger attributed to the drenching-horn by Professor Stewart; still, seeing the *possibility* of injury, and to death, by the use of it, I shall in future avoid it as much as lies in my power\*. But is not the country plate-horse drenched

\* Having always occupied what is called wheat and bean land, my cart-horses were liable to flatulent colic from eating bean-halm in the dead winter months. A turpentine drench was always resorted to, and no danger occurred. It may be recollected, by some of your readers, that I had a horse who used to bring back his physic ball through his left nostril. He was ever afterwards drenched by my own and his next owner's groom.



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between every heat? At all events, he has water put into his mouth out of a bottle, and often made to swallow some; but I do not recollect having seen even coughing produced by the act. The simplicity of the liquid, however, may account for its harmlessness in this case.

The late discussions on crib-biting, and its effects, have amused and instructed me; but I am still of opinion, that, as regards the cause, although we possess a few general ideas, they are too unsatisfactory and insufficient for well warranted conclusions. Mr. Bracy Clark thinks it probable, that bad digestion and foul feeding are oftener the consequence than the cause of this malady, in which I agree with him; nevertheless, when the cause is removed by good grooming and physic, ought not the effect to cease? He also says, the crib-biting horse has generally a lean constricted appearance, and other symptoms of very bad condition. I do not go this length. I have seen, at least, a hundred crib-biting hunters in my life, many of them in the very finest condition, and possessed one myself, of which I could have said as much. Few large studs, in fact, are without one or two that require the neck-strap; and with this precaution they cannot, generally, crib to hurt themselves. One of the worst cribbers I ever saw was in the Badmington stables, last winter; a grey horse, called Snowdon, a splendid hunter, and one which 300 guineas would not purchase. Strapping the neck with this horse is of no use, and his manger is defended by a spiked roller. It is, in my opinion, quite idle to talk of a cure for this propensity in horses; but it is no unsoundness, unless under a warranty against vice, although I would not sell a crib-biting horse without mentioning the fact. It would be considered an ungentlemanlike act in the sporting world.

I merely look upon crib-biting as a trick or habit productive of some pleasing sensation to the animal. Did it proceed from a vitiated state of the stomach, we should find it cease after proper treatment of that viscus, as we find a horse leaves off licking the wall after a few doses of alterative medicine\*. Besides, racing-colts in the *highest* state of health would not acquire it, if such was the cause; but they do acquire it as a trick or habit. In fact, although not constituting unsoundness, it is a vice; and if a crib-biter is sold with a warranty of "free from vice," he is, decidedly, returnable.

Mr. Clark attributes crib-biting, to a certain extent, to catching hold of the manger when being dressed. I think this has nothing to do with it; but if it had, no valuable horse should ever be

\* A short time back an old mare of mine took to licking the wall. A few powders of resin and sulphur, mixed, stopped her.

dressed but when muzzled; and as for the sharp currycomb alluded to by Mr. Clark, I thought that instrument was now *never* applied, except to rid the brush of dust, and to the farmer's wagon-horse.

[To be continued.]

## ON THE ADMINISTRATION OF STRYCHNINE GENERALLY, AND PARTICULARLY IN AMAUROSIS.

*By* JOSEPH CURTIS, *Esq.*, *M.R.C.S.*

ON perusing the last number of THE VETERINARIAN, my attention was arrested by an account of an experiment upon an owl, with strychnia, in which you gave enormous doses without producing much effect, until the day of his death, when he went off rather suddenly. You do not state in what way you administered the medicine; but from the account, I suppose it was in substance.

Strychnia is, I believe, at present very rarely given by human practitioners by the mouth, without being dissolved in acetic or some other acid. For, being insoluble, it will otherwise remain undigested and inactive in the stomach, until many doses have accumulated; when the patient, perhaps, taking with a meal some vinegar, the whole quantity is at once brought into action, and kills him. I believe death has occurred more than once to human beings in this way.

You are in error in supposing strychnia has not been tried upon human beings in cases of amaurosis. In the Lancet for 1830-1, vol. ii, p. 159, a case is related in which a patient was cured of amaurosis, and in which strychnia was applied to a blistered surface on the temple.

In the Lancet for 1834-5, vol. i, p. 917, is a very interesting case, with remarks by Dr. Fosbroke, in which strychnia was used in the same way.

In the Lancet for 1834-5, vol. ii, p. 789, a successful case; remedy applied in the same way.

In the Lancet for 1836-7 and 1837-8, allusions are made to the use of strychnia in amaurosis, but no cases related.

## DISEASES OF THE URINARY ORGANS IN CATTLE.

*By* Mr. W. RUSH, *Harleston, Norfolk.*

Sir,—HAVING a few cases of affection of the urinary organs in neat stock on record, I forward them to your Journal: if similar cases are in any district, common, I should feel exceedingly obliged by a statement of their successful or unsuccessful treatment.

*Sept. 19th, 1839.*—I was requested to attend a five-year-old milch cow, the property of Loom Taylor, Esq., of Starston. She had not fed well for a day or two previously, and yielded much less milk than usual; her pulse was depressed; her breathing accelerated; the nose cold, and slightly bedewed; the ears and legs very cold: still she ruminated, but did not lick herself; and, in fact, her whole appearance wanted health.

I administered ℥j magnes. sulphat., and ʒss pulv. zingib., to which her bowels readily responded.

*20th.*—Her extremities warmer; appetite improved, but the breathing still too quick: gave her ʒij pulv. gentianæ, and ʒj potas. carb. in gruel.

*21st.*—Still improving; ruminating; licking herself, and yielding more milk: continued tonic powder as yesterday, and one left for the *23d.*

*23d.*—I received intelligence that the cow was much worse. On my arrival, the person who fed her told me that he had noticed clots of blood following the evacuation of urine, and had subsequently caught some for my inspection. The appearance of the cow was evidently worse: there was great anxiety of countenance, and she was frequently looking round to one side or the other; the pulse 50, and small; breathing quick and irregular; nose dry, and ears cold. The superficial part of the urine was of a sherry colour, but the sediment was like the white of an egg, interspersed with dark clots of blood. It was suggested by the steward, that she had received injury (*per vaginam*) from the bull six weeks previously; but I found on examination the os uteri closed, and covered with a healthy secretion, the vagina lubricated with healthy mucus: I therefore felt satisfied that the blood, &c. proceeded from the bladder or kidneys.

I abstracted eight pints of blood, ordered plenty of decoctum lini, gruel, &c., and gave ʒj pulv. opii., ʒj potas. carb., and ʒj p. gent., twice a-day.

*24th.*—No apparent alteration, excepting constipation of the bowels. I gave a saline aperient, continued the linseed, &c. and ordered a little green second-crop clover to be cut into chaff with some old hay. In the evening I repeated the powder as yesterday.

*25th.*—She had given but a pint and a half of milk the previous evening, and was not at all improved. I administered the powder with opium, &c. twice in the day.

*26th.*—The discharge was not so great, and less blood in proportion. I persisted in the use of the medicine.

*27th.*—Much better; more lively; fed with appetite, and was anxious to join her companions. I requested that she should be turned into the bleach two hours during sunshine: while there she fed ravenously.

28th.—I found her evidently worse; the unhealthy evacuation was much increased, and she appeared very ill. For the first time, I tested the sediment from the urine with nitric acid, bichloride of mercury, and boiling water, and found it to be pure albumen combined with the cruor of the blood. The nature of the affection was therefore plain enough; and I gave ʒss pulv. aluminis, and ʒj pulv. opii. twice a-day, in linseed tea.

29th and 30th.—Continued medicine as before. No amelioration of symptoms.

Oct. 1st.—Being still unsuccessful, I determined to give a medicine which I was confident would stimulate the kidneys, and administered twice daily a draught composed of ʒss ol. juniperi, ʒj ol. tereb., ʒj tinct. opii., in a pint of thick decoction of linseed, allowing six gallons of water instead of four daily, and two gallons of decoction of linseed.

2d, 3d, 4th.—At first the discharge was much increased, but it as suddenly began to diminish: the same treatment continued.

5th, 6th, 7th, 8th, 9th.—The discharge gradually diminished.

From the 9th to the 14th.—Ordered but one dose of the medicine daily, she had yielded almost her usual quantity of milk, and I discontinued the medicine on the 14th.

21st.—When I called, her urine was healthy, and I pronounced her well.

N.B. This patient never evinced pain when the kidneys were examined per anum, or the lumbar region pressed upon in the usual manner.

The second case was that of a cow, the property of Mr. John Moore, of Metfield.

Sept. 27th, 1839.—Mr. Moore requested me to attend to a cow which he had been drying. The pulse was hardly perceptible; the breathing not altered in frequency, but very laboured; eyes wild; conjunctiva blue; muzzle slightly moist, and very cold; mouth cold, with very unhealthy smell; ears, and every extremity, icy cold; coat staring, and she ceasing to ruminate or feed. As she had been kept badly for the sake of drying her milk, I accounted for her appearance by the change of food, and want of nourishing diet. Her fæces were black, very foetid, and rather drier than was healthy. I ordered ℥j magnesiæ sulphat., ʒss pulv. zingib., and ʒj pulv. anisi to be given in a quart of warm beer, and changed her food for good hardland hay cut into chaff, with bran gruel.

28th.—Gave her ʒij pulv. gentianæ, ʒj anisi pulv. and ʒj pot. carb.

29th.—I thought her improved. She had fed well, ruminated, and, being warmly housed, her aspect was more enlivened. Continued the powder as yesterday, and left one for the 30th.



*October 1st.*—She was evidently much worse. The owner had observed, when she staled, bloody matter mixed with the urine. She neither fed nor ruminated. I examined the vagina, but paid no particular attention to the state of the uterus, as she was not in calf: the vagina was pale, but otherwise apparently in a healthy state.

*2d.*—Bled her to six pints, and gave an aperient. Examined the urine, &c.: it was composed of albuminous matter streaked with blood, and having beside clots of pus, blood, and albumen mixed. There was not much watery matter in proportion, and her attempts to stale were not frequent. I gave her ʒij ol. tereb. and ʒss ol. juniperi in mucilage twice a-day.

*3d.*—The quantity of pus was much increased, and it was accompanied with small amorphous calculi, like mortar, which rapidly effervesced with muriatic acid. Continued the medicine as yesterday, and supported her with mucilage of gum arabic and thick gruel.

*4th.*—No apparent alteration. She still ate nothing. I administered a copious saline enema, as there was not much inclination to void fæces, and proceeded with the same medicine, between the doses of which I gave ʒj p. gentianæ and ʒj p. anisi in gruel.

*5th and 6th.*—The discharge continued unabated, and the case was pronounced hopeless; but I still persisted in the use of the same medicine.

*7th.*—Mr. M. told me that she had, in the previous night, got into a narrow passage leading from the neathouse to the calves' crib, in which she could neither proceed or retrograde. In her struggles two or three abscesses were ruptured in the kidneys, and it is very probable some important branch of the renal artery was ruptured, causing death, as the abdomen contained a large quantity of coagulated blood. Her position in so small a place, from which she could only be removed piecemeal, was very unfortunate for my post-mortem examination, as I could not exactly satisfy myself whence the hæmorrhage proceeded. I obtained the kidneys and bladder; the former were enlarged, and the cortical part of a very pale colour: the medullary part was the seat of several large abscesses, which contained purulent bloody matter and small mortar-like calculi, which were rapidly decomposed by muriatic acid. I did not test them further, as the analysis of the calculi generally found in neat stock (by Mr. Morton) sufficiently satisfied me of the probability of their composition. The bladder was corrugated in thick folds, on the ridges of which papillæ of the size of a small bean were raised. They were very pale, and covered with lagunæ, from which, on pressure, oozed a thick fluid. As this was not examined till twelve hours after death, I have imagined the secretion before death was widely different. The bladder contained a pint

of fluid, having a much larger proportion of blood than that evacuated before death, a considerable quantity of pus, and some very small calculi. The ureters were very much thickened, and lined with a viscid secretion, similar to that which exuded from the bladder. The intestines and stomach presented no abnormal appearance, nor did any organ, except those above mentioned, present an appearance which I did not anticipate under existing circumstances.

It is strange that, under examinations conducted with the greatest care and anxiety the patient evinced no pain from contact with the kidneys or pressure near them.

The last case was in a beautiful white Durham cow, four months gone in calf, the property of Mr. John Reeve, Pulham, who, on the 3d of October, 1839, observed a long string of clear slimy matter hang from its bearing, and being afraid abortion had taken place, and that she had eaten the fœtus, he requested immediate assistance. I found, on examination, the os uteri closed, and covered with a healthy glutinous secretion; but the entrance to the bladder and the anterior part of the vagina were highly inflamed. The ears were very warm; the conjunctiva red, and the eyes suffused with tears; the muzzle dry and feverish; the bowels were costive; the pulse quick and small; and the breathing considerably quickened. I administered ℥j magnesiæ sulphat. to which the bowels readily responded. In the evening I gave ʒj pulv. anisi, ʒj pulv. gentianæ, and ʒiv pulv. lini, in warm water, and ordered her plenty of gruel.

4th.—There was still extensive irritation of the vagina and bladder, and in the urine a clear gelatinous precipitate. I exhibited the mixture of ʒss ol. juniperi, ʒj ol. tereb., and ʒj tinct. opii, in gruel.

5th.—I examined the vagina again, and felt satisfied that the secretion proceeded from the bladder. I ordered the same medicine.

6th and 7th.—The jelly-like matter was evacuated in smaller quantities. The medicine was continued as before.

10th.—I found her perfectly recovered, and called no more.

N.B.—As I did not test the urine of this cow, and there were no clots of blood, as in the previous cases, I leave it to your better judgment to determine whether or not it arose from a similar, though less acute, affection.

## ON THE SHOEING OF FRENCH HORSES.

*By Mr. C. J. DAWSON, Boulogne-sur-Mer.*

OUR talented “amateur” is again in the field, and as he has done me the honour to revert to my last communication to your valuable periodical, I must again crave your indulgence of the insertion of a few lines.

At the commencement, allow me to state, that my experience among French horses is limited; it is, therefore, evident from this admission, that I am incapable of giving a general correct view of the subject on which I am writing. But when I said that four out of six French horses that come to my forge had corns, it is still my opinion that I was correct in the assertion.

This may, in some measure, be accounted for from the fact of my French patrons being somewhat uncourteous to me, inasmuch as they seldom send me their horses until they are in such a crippled state, from feet diseases, either corns or otherwise, as to be almost useless to them; and, what is most singular, we have uniformly relieved these horses. This little fact strongly marks the superiority of the English over the French system of shoeing. I did not intend to convey the idea, that four out of six of them, taken promiscuously, are diseased with corns; nor do I disbelieve there are many horses, both in France and England, that, with the exception of occasional intervals, work sound with corns. It is not extraordinary nor inexplicable to me, that the French smiths should not be more conversant with the proper treatment of foot-diseases, when I see their veterinary surgeons making the blunders they do respecting the feet. For, how many of their avowed shoulder-lamenesses have I distinctly traced to the feet! I would not dare make this assertion, unless I could bear it out by the subsequent treatment of several of these cases; for it is notorious, that we have given immediate relief merely from properly paring and shoeing.

Their attributing almost all the lamenesses of the fore extremities, when they cannot see or feel the cause, to the shoulder, appears not to have escaped the natural acuteness of Nimrod. His description of the French shoe is correct; and I am not bigot enough to deny there are not some good properties in it. They who are fond of frog-pressure—among which number is your humble servant, although not going the whole hog—may have to it their heart's content with this shoe. But, surely, sir, this pressure, carried to the extent which it must be with this shoe, must be at the expense of tendons; and if the marks of firing and budding-irons, with which we see so many legs scored, are any proof of it, there is no reason to doubt the fact.

In conclusion, Mr. Editor, allow me to say, that with any affairs connected with the foot we are many years in advance of the French; and also to suggest to Nimrod (and it is with some diffidence I make the suggestion), that the horses we have here, or at least such as we have in the neighbourhood, are not subjects on which to test good shoeing; for the feet of those ill-bred animals are singularly sound; and I believe it will be admitted, that the

nearer we approach perfection in breed, so much greater is the predisposition to disease in the feet, and, consequently, difficulty in shoeing; therefore, I say, it is with the feet of well-bred animals only that we can decide upon the superior merits of French and English shoeing.

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## A CASE OF ENLARGED URETERS, AND DISEASED KIDNEYS IN A COW.

*By Mr. W. A. CARTWRIGHT, Whitchurch.*

THIS spring, Mr. Booth, of the Tremlovs, had one of his cows that voided urine of the colour of sherry wine, and occasionally of a deeper colour, and having a small portion of purulent matter in it. She milked pretty well during the summer. It was not suspected that the high-coloured urine interfered with her health, and consequently no medicine had been given to her. Her urine was only observed to be discoloured in the spring and the beginning of summer, and for some months before her death it was not observed at all.

About the middle of October she was dried of her milk, and turned out into a better pasture, in order to get her into a little better condition, for she was becoming a little out of sorts. For three or four days previous to her death she was strangely altered in her temper, and ran at every one that went into the field, and nearly killed one man. The morning after this they went to look at her, and found her dead.

She was brought to this town by a butcher for his pigs, and he gave to me the opportunity of imperfectly examining her.

I had not time to examine the brain. When the carcass was hung up in the slaughter-house, the kidneys were found to be the parts principally diseased.

THE RIGHT KIDNEY and ureter was cut away and removed in a slovenly manner, and also cut to pieces. I, however, could see that it was ulcerated in many places, and contained a considerable quantity of pus about the ulcerated parts. The ureter was also evidently enlarged. The examination of these parts could not be an accurate one, on account of the circumstances which I have stated, and my being called away at the time.

On taking a view of the left kidney as it hung up, it was evidently considerably enlarged, and the ureter lay on the front of it, and was also seen to be enlarged all along to the bladder. This kidney was double its natural size, and weighed three pounds. I did not cut it to pieces, but only made an incision into it, through

the ureter, just over the pelvis, so as to examine its interior. I introduced my finger into the various branches inside, and found the tubes much dilated in the different lobes. It also contained a considerable quantity of muco-purulent matter; but much of it had escaped, and also out of the ureter, from a cut that had been made in the latter by the butcher. The substance of the kidney felt a little flabby when the matter was out of it; but it was kept somewhat distended by the thickening of the different tubes ramifying throughout it. The inner membrane was of a pale colour.

*The Ureter.*—Its length was twenty-six inches. The breadth of the ureter forming the pelvis was three inches and a half. At the distance between the second and third inch from the kidney, the ureter became more narrow, and was not above an inch and a half wide, on laying it flat and pressing the sides together. It then tapered suddenly off, and was about two inches wide, and continued so for eight inches. It afterwards gradually narrowed again to an inch and a half, and continued so for nearly the remainder of the length; but the last inch prior to entering into the bladder was about an inch wide. The united thickness of its coats was a quarter of an inch, but the central coat seemed the principal one, and the inner one was so closely attached as to be scarcely distinguishable from the other, while the whole had the feeling of soft cartilage.

The opening from the ureter into the bladder was very apparent. I drew a blow-pipe a quarter of an inch thick very easily through it; and it could have been considerably more dilated.

The opening from this ureter was twice as large as from the other; but each was very distinct, and near to the other; and there was no particular or other formation at their orifices to prevent any thing from flowing backwards or forwards.

The bladder was small and contracted, and its united coats were about three-eighths of an inch thick—the mucous coat was one-eighth, and soft and rugous.

The vein of the kidney, when laid out flat, was an inch wide, and five inches long from the vena cava. The artery was half an inch wide and three inches long from the aorta.

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## THE VETERINARIAN, FEBRUARY 1, 1840.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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The following beautiful and unanswerable letter of Mr. Percivall demands a place, and the first place, in our Leader :—

TO BRANSBY COOPER, ESQ., F.R.S.

*Surgeon to Guy's Hospital.*

Hyde Park Barracks,  
January, 1840.

My dear Sir,—THE circumstance of your having become a Veterinary Examiner recalls to my mind so many singular co-incidences in your professional life and my own, that I cannot refrain from giving them to my veterinary brethren: not, I beg to observe, out of any disrespect or disparagement of a name which the medical world, both human and veterinary, have reason enough to hold in pride and veneration; but for the purpose of shewing, in a yet stronger light, perhaps, than has hitherto been exhibited, the absurd lengths to which our Royal Veterinary College seems disposed to drive veterinary affairs.

In your own case, fond as you have always been of horses, and really conversant as you are in horse-knowledge, compared with the medical profession generally, your appointment as one of our examiners ought to be, and most assuredly would be, matter of congratulation to us, did not the same insurmountable objection apply as, *olim*, operated in the case of your highly-distinguished uncle, Sir Astley. Unfortunately for us, you are, both of you, *surgeons*; while we are, all of us, *veterinary* surgeons; and between our two sciences, *in matters of practice*, there is, as everybody now-a-days knows, far too wide a difference ever to admit of any person professing but one to pretend to examine another individual in regard to his qualifications to practise the other. Plain and full of truth as this axiom is, yet are there those who think otherwise; and to such I would put your case and mine, as being, perhaps, about one of the most unanswerable that the two professions have ever been able to furnish.



Having myself been educated at an early age as a veterinary surgeon, soon after I had obtained my diploma, I entered the army: being, however, at the time of the great reduction, placed upon half pay, I, a few years afterwards, became a pupil at St. Thomas' Hospital, where I dressed for Mr. Travers, and, finally, obtained a new diploma from the Royal College of Surgeons: and subsequently to this I passed Apothecaries' Hall. So, in fact, it most singularly turns out, that you and myself have been both pupils of the same hospital; have both become Members of the Royal College of Surgeons; have both served in the same regiment—the Royal Artillery—you as assistant surgeon, I as veterinary surgeon; have both of us since that period been engaged in the practice of our respective professions, you as surgeon, I as veterinary surgeon; both written works on our distinctive arts, which are in neither case cast aside or deemed unworthy; and yet, now—after a servitude on my part of twenty-eight years in the practice of my profession—you are elected on the Board of Veterinary Examiners, while I am deemed unfit to hold any such appointment!

Do not, I pray you, my dear sir, for a moment conceive that I envy you this veterinary appointment: there can be nothing in it worth your acceptance; and, I can assure you, but little to render it worth mine. No! *that* is not the motive that stirs my pen in this already much mooted question at the present time; for, being myself in the army, and moved about from quarter to quarter, the appointment is not one I could on all occasions fulfil. My present object is to shew, yet more forcibly, if possible, than has been hitherto done, the continued stigma cast upon all well-informed and respectable members of the veterinary profession, by the obstinate and undeserved exclusion of them, by the Royal Veterinary College, from situations which it is perfectly impossible can be adequately filled by gentlemen who are by profession surgeons and physicians, and not veterinary surgeons. In times past, there might have existed reasons why students in the art of curing horses should be examined by gentlemen eminent for curing the disorders of men; but, surely, now that the Veterinary College has stood nearly half a century, we must have members among us who are competent to this duty; and that being the case, I should, for

one, vote that some very handsome and acceptable return be made to the present Board of Examiners for their long and faithful services, with a conjoint request that they cede their places to a board of veterinary surgeons. If Mr. Sewell be deemed informed enough to sit as Professor at the Royal Veterinary College, doubtless such men as Goodwin, Cherry, King, Field, Turner, and Youatt, are sufficiently endowed to examine into the qualifications of the students! And, therefore, it would be just as reasonable to appoint a surgeon to the Professorship, as to continue to elect surgeons to become our examiners.

At the Scotch veterinary school this incongruity has never had existence. *Ab incipio*, there, veterinary surgeons have constituted the examining board; and the fruits of this wholesome arrangement, if I mistake not, have already shewn themselves on more occasions than one. The profession wants men “qualified to practise”—not men schooled like parrots to answer questions. The army in particular requires the qualified *practitioner*; and, if I am not deceived, under its present veterinary directorship, will take care to have that kind of qualification. Indeed, for my own part, were I in the place of the Principal Veterinary Surgeon, I should certainly consider it my duty to look lightly upon any veterinary diploma signed by surgeons and physicians, however celebrated in their own profession.

But the present diploma is also subscribed by the Professor of the Veterinary College. So much the worse; because he is, or is naturally regarded to be, interested in passing his own pupils.

I cannot refrain, in this place, from relating what some years ago passed on this very question between myself and the late much respected and talented Dr. George Pearson, whose acquaintance I had the honour familiarly to enjoy. The Doctor one day called at my barrack-room, in Hyde Park, and in the course of conversation the subject now before us happened to come upon the *tapis*; when I urged what I have in this letter been contending for. “No,” replied the Doctor, “I cannot agree with you, Mr. Percivall; the Veterinary Board would become poor and inconsequential without us. Without our (celebrated) names, your diploma would be worth very little.” “True, Doctor! I admit the force of your reasoning;

but how do you reconcile the fact of one person pretending to examine another on subjects concerning which he himself must be in a state of comparative ignorance?" "In a state of ignorance! No, no! we profess ourselves to be quite competent in all *general* matters." "Will you do me the favour to step into my infirmary stable, Doctor? There stands a sick horse: now, my dear Doctor, can you in any manner or measure divine what that animal's disorder may happen to be?" The Doctor turned round, and, chuckling, rejoined, "Egad! I believe you have me now: this appeal *ad equum* is more than I bargained for."

Of the value of the appeal *ad equum*, there is no one on the Examining Board who can have so just and proper a sense as yourself. Fond as you have always been of riding and driving—Ay! and I have known the day when no hounds could have got away from you—you must, and acknowledgedly are, the surgeon, of all others, who is most competent to arbitrate the questions—By whom ought veterinary students to be examined? By members of their own profession, or by surgeons and physicians? And should you view the subject in the light we do, I trust I know you well enough, to assure my veterinary brethren, that you, at least, will espouse their cause—that you will throw off an appointment which can add nothing to your purse or your fame—and that you will recommend our College to do what it ought to have done long ago, viz. elect a Board of Examiners out of the veterinary profession.

With every desire for your health and happiness,

Believe me, my dear Sir, to remain,

Most faithfully and devotedly yours,

WILLIAM PERCIVALL, M.R.C.S.,

Member of the Apothecaries' Company,  
and V.S. in the First Life Guards.

To prevent any misconception in regard to the aim and purport of this Letter, the writer wishes it to be distinctly understood, that it is to be considered as addressed to the whole Veterinary Committee of Examiners: its personal direction to Mr. Cooper having arisen, fortuitously, out of the circumstances of similitude in the professional life of that gentleman and his own, which seemed to the writer to add peculiar force to his statements.

[We insert the following letter from a student. We believe that we can more than guess at the writer, otherwise an anonymous contribution would have found no place in our pages. We have a little modified one sentence, and to that modification he will not object.]

SINCE sympathy has excited the pens of others to intercede in our cause, and yet not ours alone, but theirs also, perhaps it will not be thought presumptuous for a pupil to hazard a few observations on a subject most interesting at the present moment.

It is very discouraging for us who have served an apprenticeship of three or four years to be compelled to remain as long at the College as those who have never served an hour; and it is frankly acknowledged to be unjust, even by the students who have come among us unprepared. There are plenty of pupils at College now who never bled, balled, or performed an operation, and, indeed, who never saw these things done before they came here; and they will not have to stop one hour longer than those who have laboured hard in the performance of every manual operation. It is not this alone that we complain of, but the inconvenience to which some of us will be put, by having to stop here eighteen months after our term of apprenticeship has fully expired. If we apply ourselves, we might surely be well prepared in twelve months. There were some remarks in the last number of *THE VETERINARIAN* regarding another Professor. Should this be calculated to afford us an opportunity of getting away sooner, we are willing to pay him.

If you want to do away the cowleech and the farrier, change the period to twelve months for a veterinary surgeon's apprentice, and two years for all others, and let the entrance fee be thirty guineas, which we are ready to make up the moment the rule is changed. You will then have far better practitioners, who, by their practical skill, will give confidence to the public. Seeing and acting are very different things. A pupil may see an operation performed, and think to himself it is quite easy; but when he is put to the test, and has no one at his elbow to direct him, he finds that there is far more difficulty about the matter than he was

aware of. This will be always the case with him who has no practical experience.

I know a veterinary surgeon, who when he first came from College, employed a farrier, and brought him into his yard to bleed and operate for him. I contend on the ground of common justice, as well connected with the honour of our profession, that the person who has had practice should be distinguished from him that has not; and I trust that we shall not much longer have to submit to what we feel to be an act of injustice.

There is another class of pupils of which we have cause to complain; there are a considerable number of them, who reside in different parts of the metropolis, and attend to other business, while their time is going on at the College. They come, perhaps, for an hour or two every day, or every intermediate day. They are those whom Mr. Sewell calls day-scholars; and yet their time will be as soon expired as our's, who devote ourselves entirely to the College. This is not quite right.

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## VETERINARY JURISPRUDENCE.

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### HEPATIZED AND TUBERCULATED LUNGS.

#### FISHER *v.* JOYCE.

WE have been permitted to see the notes of a short-hand writer respecting a horse-cause of an unusual and very important character. The plaintiff, a horse-dealer, buys a horse of another dealer—he keeps it a short time, and then sells it to Mr. Kent, a veterinary surgeon, residing at Bristol. Mr. Kent keeps the horse about three weeks, and likes it. He puts it to no kind of hard work, but, after the expiration of those three weeks, the horse becomes suddenly ill and dies. Mr. Kent examines him, and finds the lungs very extensively hepatized and tuberculated. A portion of the lung had attained a perfectly scirrhus state. His experience in the diseases of horses tells him that a disease of three weeks' standing could not have produced hepatization and tubercles—nor could such lesions have been formed in the course of the three weeks that had elapsed since he purchased the horse. He comes to the conclusion that the animal had diseased lungs at the time of sale, and he writes to the seller, and demands a return of the purchase-money. It is sent to him. The horse-dealer then makes of his brother-dealer the same demand; he, however, does not part with his money so readily—he refuses to refund, and this action is brought. The question then is, What time does it require to form these peculiar lesions in the respiratory apparatus of the horse; or could

he with hepatized and tuberculated lungs perform the labour usually required? Were the lungs sound when the horse passed from the hands of the first dealer into those of the second?

The immaterial points in this affair we will pass briefly over. We will not stop to controvert any opinions, and some there are to which we cannot give our assent. We will relate the substance of the evidence at least, and a great part of it shall be given verbatim; but, after all, the important point will be—and we trust that some of our correspondents will take it up—what time does it require to accomplish the hepatization of the lungs of the horse? what time to produce the tuberculated lung? It is a new question among us—it is a very important one, and we earnestly solicit the attention of our friends to it.

But to the trial. Let it, however, be recollected that what the witnesses are here made to say, is not a continuous account of what they saw and thought, but a series of answers to questions, and some of them very strange and discursive, which were proposed by the counsel on either side. Our readers, in justice to the gentlemen who were examined, will not forget this.

An attempt to impugn the identity of the animal, and to render it probable that the chestnut horse sold by Fisher to Joyce was not the same as that sold by Joyce to Mr. Kent, we pass over. It utterly failed. We likewise treat, with the indifference which it deserves, the evidence of the servants of the first dealer, that the horse did not cough during a period of four months that they attended on him; that, from first to last, except during *two days* that he had strangles, nothing ailed him; and that, out of the great number of horses which the first dealer had in his possession, and during the period of four months, not one of them had cough; for one fact satisfactorily contradicted all this. On the 27th of February, Mr. Fisher went to Mr. Joyce's stables to look at some horses—among the rest he examined this dark chestnut horse. The horse coughs: Mr. Fisher immediately remarks, "I don't like that nasty cough." "Oh," says Joyce, "that's nothing; *I'll make them all sound,*" and thereupon Fisher completes the purchase. After he was taken to Fisher's stables, he was treated as a horse that had cough, and had a ball of camphor and nitre given to him: a few days afterwards the cough had left him, and, Mr. Fisher believing that he had no disease of the lungs, sold him to Mr. Kent.

The horse was sold to Fisher on the 26th of February. It came into the possession of Mr. Kent on the 12th of March. On the 4th of April he had a most violent fit of coughing, but this, under proper treatment, disappeared. On the 6th of April, Mr. Kent would have again ridden the horse, but he found him perfectly out of spirits, and incapable of work. He became worse and worse, and died on the 12th. The time which elapsed between the first sale and his death was six weeks and two days. Did the disease of the lungs, discovered after death, exist at that time, or had it begun to exist then? The proof of this must rest with the witnesses of the plaintiff, and we give the substance of their evidence.

*Mr. John Kent, examined by Mr. Crowder.*—I have been a veterinary surgeon in this city for some years. I purchased a horse of Mr. Fisher in March last. I paid him the money, and received a warranty of soundness on the 15th. It was a dark chestnut horse, and I paid £60 for it. When I had examined it, Mr. Fisher's man brought it home to me. I think it came to my stable on the 8th or 9th, but I did not pay the price until the 12th. It did not come to my stable first as a purchased horse, but to try it. I said to Mr. Fisher, if I liked the horse I would keep it. I drove it several times myself. I first used it on the 12th, when I went to Arno's Court with Mr. Fisher's man in Mr. Fisher's break. The distance I drove was about a mile out and back. The animal pleased me. I drove at a slow rate. That afternoon I agreed to take the horse. I looked over the horse myself, and did not observe



any thing the matter with him. He was not very sleek. He was fat, but had his old coat on. From the 12th, he remained in my stable. I wanted him for riding as well as driving, and also to go in a cart. I had ridden him as far as the Hotwell Road, about the 8th or 9th. I merely rode him then to see if I liked his action. I never saw him trot his best at all except once, in hand, in Mr. Fisher's ride. Excepting upon that occasion, I never saw him trot as fast as seven miles an hour. After the 8th or 9th, I did not use him again, nor was he rode or driven in my presence till the 12th. Between those days he remained in my stable. When I drove him on the 12th, I observed no wrong symptom about him. After the 12th I did not use him till the 15th, when he was driven again by Starkey to Arno's Court. Between the 12th and the 15th he had done nothing at all, except going in a cart to fetch a puncheon of whiskey from the quay. I did not go with him on that occasion, but saw him start, and had a good report of him when he came back. On the 16th I rode him to Arno's Court, and to Ivatt's Hotel in the Hotwell Road. I did not go faster than six miles an hour. I never saw him gallop or canter in my life. I am not fond of galloping up hill; indeed I am no galloper at all. Up to this time, I had observed nothing the matter with the horse at all, except that I heard him, on the 16th, give a kind of snorting cough at the turnpike-gate going to Arno's Court.

On the 17th he did nothing, but remained in my stable, in a loose box. On the 18th I rode him to Ivatt's Hotel, and to Mr. Winwood's on Clifton Down. I should think about two-and-a-half miles altogether. I do not think that I either rode or drove him from the 18th, or 19th, till the 24th, as I had another horse, and my business at that time lay in town. On the 24th I drove him to Arno's Court, and, on the 25th, to Arno's Court again. On the 26th I went to the Cotton Works, and, from the 26th to the 4th of April, he never worked at all. Up to this time I had not observed any symptoms of a cough, or any thing to attract my notice. On the 4th of April I rode him to the Cotton Works again. The distance is as much as two-and-a-half miles from my house.

On my way, as I came into the Old Market, the horse began to cough, and coughed till he nearly tumbled down. I pulled him in and stood still, as I thought he would have fallen down, he coughed so very violently. I had not ridden him fast at all. I walked him the greater part of the way. I observed no cause for this cough. There was no cause in any thing I had done that day. After I heard him cough, I walked him gently home, and gave him some medicine as soon as he returned. I gave him a drachm of aloes, with some carbonate of ammonia and linseed meal. In my judgment that was the proper medicine to give. It was what I am in the habit of giving constantly. The next day, the 5th, I gave him some medicine again. I did not observe whether he coughed in the stable; I was there frequently, but did not hear him do so. On the 6th I had him saddled to take me out again, but he was so out of spirits, and shewed such languor, that I only rode him about two hundred yards at a walking pace, and brought him back again. I gave him medicine again on that day, and he had as good care and attention as any other horse of mine ever had. The next day, the 7th, he had another dose of medicine. I did not hear him cough either on that day, or the 6th, when he was so low-spirited. On the 8th he was taken ill, and, at noon, refused his oats. He ate his morning feed, but his mid-day one he left in the manger. My groom informed me of it, and, at four o'clock in the afternoon, I went and saw the horse, and found him very ill. His pulse was more than sixty a minute, twenty a minute more than it ought to be. This shewed fever, and I gave him a drachm of aloes, some foxglove, and some tartar emetic. The object of this was to lower his pulse. Towards the evening the pulse rose to ninety, and he was bled between nine

and ten o'clock that night. I am sure that he ought then to have been bled. He had been getting worse rapidly from four o'clock till ten. I sat up with him myself till almost three o'clock the next morning, and I was quite certain then that his lungs were diseased. His breathing was not very much disturbed. The horse was very ill, and it was quite plain to me that there was also some inflammation of the mucous membrane of the bowels. I sat up with him almost all night, but he was much worse in the morning. He had his medicine repeated, and warm water to drink, which, in my judgment, were the most proper remedies. He continued to grow worse, and died on the 12th, at about six o'clock in the morning. He was not bled again after the night of the 8th. I saw that the last bleeding had done him no good, and I did not repeat it. He continued to grow worse from the time he was first taken ill until he died. I saw him repeatedly during the 10th and 11th, at different times, from early in the morning till late at night, and medicines were administered in the usual way. I did not hear him cough at all.

Upon his death I sent for Mr. Leigh to open him. I sent to young Mr. Leigh, and also to the elder Mr. Leigh. Mr. Nathaniel Leigh came to open him, and old Mr. Leigh came afterwards. Young Mr. Leigh came at ten o'clock, and I was present when he opened the horse. I examined the chest. Upon looking at the lungs after they were taken out, I observed symptoms of old disease—the right lobe was indurated or hardened to a considerable extent at the part next the sternum or breast-bone. The proper structure of the lungs is not hard, but somewhat like sponge. About twelve inches in extent the lung was hardened along the breast-bone, which, in a horse, is horizontal. The hardened part was about six inches in depth. The left lobe was also diseased, but not so extensively as the right. It was hardened, but not in the same part. It was hardened at about the centre of the lung. It was the same kind of disease as in the other, and about five or six inches in diameter.

There were tubercles existing in these hardened parts—substances like curd or cheesy matter. From these appearances I could tell that the disease must have existed for a considerable time, although I could not tell accurately for how long. Tubercles are first formed by subacute or slight inflammation. If the inflammation were very acute, it would produce abscesses, or kill the animal. The subacute inflammation may arise from different causes—from cold, strangles, or from influenza. When cold takes place, if the slight inflammation is not removed in eight or ten days, or a fortnight, coagulated lymph is thrown into the substance of the lungs, and that is what we call induration or hardness. When the coagulated lymph has thus been thrown in, blood-vessels begin to shoot through it, and it becomes organized or hepatized like liver. That takes great time, and becomes what is called an organic disease. It becomes like a part of the body, and the circulation is carried on in it.

Inflammation of the lungs is generally attended by cough as long as the inflammation lasts, but when the part becomes organized—when it is a part of the body, the cough ceases, because there is no longer any irritation. Where there has been a change of organization like that I have described, the animal may be as fat as any other horse, and may continue capable of doing moderate work. It would not be more likely to take cold than any other horse; but if cold were taken, the lungs being in that state of disease would be more likely to be seriously affected by it, and an increase of the disease would be likely to be caused. It cannot be ascertained by the appearance of the lungs whether there has been only one or more attacks of inflammation.

Beside the hardness in the lungs, I observed that the intestines were diseased. There was an inflammation of the mucous membrane of the colon and of the large intestines. This inflammation of the bowels had been called into action by the previous disease of the lungs, and, jointly, they had killed the horse.

From my experience, I am of opinion that inflammation, or disease of any other part, is likely to affect diseased lungs. The snorting cough I heard on the 16th was not calculated to excite notice. I do not know how to account for the violent coughing I heard on the 4th of April, as it was exceedingly bad, and only at that time. Looking at the induration of both sides of the lungs, the disease, according to my experience, could not have commenced after the 26th of February. In my judgment it is utterly impossible it could have commenced after that time. The shortest time required to produce the state in which I saw the lungs would, in my judgment, be six months. The hardness had completely changed the nature of the lungs in the affected parts, which had become perfectly impervious to air. The diseased parts of the lungs sunk in water. The healthy parts would float. After we had completed the examination Mr. Leigh wrote a certificate, and I wrote to Mr. Fisher on the subject. Some correspondence passed between us.

*Mr. Sergeant Bompas* submitted that the correspondence ought to be put in and read, which was done.

*Examination in chief resumed.*—I wrote to Mr. Fisher to tell him that, if I was not paid on or before Monday, I should send him a writ, and I was paid the money on that day.

*Cross-examined by Mr. Sergeant Bompas.*—I do not remember the date when I was paid the money. It might have been a fortnight after the examination.

(*A receipt was here shewn to the witness*). I see now it was on the 3d of May. This receipt is in my hand-writing. It was a very slight inflammation of the right lobe. It must, perhaps, be called acute inflammation, but not running very high. The acute inflammation was where the induration or hardness was. It was redder there than in any other part; but it would be difficult to say whether there was more inflammation there, as the diseased parts were darker than the others. The inflammation of the lungs was not sufficient of itself to cause death. If the lungs are previously diseased, inflammation of any other part extends to them. Almost every disease which causes death extends to and produces inflammation of the lungs. What is called rottenness of the lungs is merely inflammation of those organs, terminating in mortification or gangrene. I believe that it used to be commonly thought a disease lasting a long time. It did not use to be thought so by gentlemen of my profession, because there were none of my profession at that time. People used to profess to know all about horses, and I believe they used to say so, but that was before my time. I am in the habit of giving certificates of soundness. I cannot always tell whether a horse's lungs are sound or not. I have given my opinion that a horse was sound many times, in court and out; but have not added, I could not tell whether the lungs were sound or not, as I have not been asked the question.

*The Judge.*—I suppose certificates are given, subject to this inability to determine the state of the lungs?

*Witness.*—Yes, my lord.

*Cross-examination resumed.*—I have given opinions before now that horses were sound, in which opinion I might have been quite mistaken. With respect to the diseases of horses which we are capable of ascertaining, we can speak confidently.

*Mr. Sergeant Bompas.*—I wish to know how you have been enabled to ascertain that this disease must have existed for some months.

*Witness.*—Thus. I have had horses under my care with cough which have lasted for a time, and they then appeared to get well: afterwards they have died, and I have found tubercles and induration existing in the lungs.

*Mr. Sergeant Bompas.*—But how do you know that such appearances may not have been produced in a week?

*Witness.*—It is absolutely necessary that the inflammation should have ceased before the induration had commenced. Of course, I never saw the inside of a horse until after death, but I can tell by the common course of disease. I have seen horses with the same disease before. They must be ill before induration would take place, but not very ill. It follows the termination of slight disease. Of the horses which I have examined, some have died, and others have been killed from various causes. When I examine a living horse, I do not ride him once in ten times. I see him trotted in a man's hand. I do not have them trotted hard, but very gently. I do not have them stopped short. I usually cough them. By coughing them is meant, pinching the horse's throat. The object is to ascertain whether he has a cough, or is broken-winded; in fact, whether he has any disease of the lungs. If persons try horses to ascertain their soundness, they are trotted gently to see whether they are lame or not. It has not been my habit to ride or drive fast. I never saw this horse go fast, but should think he could do so. I could have had 65 guineas for him whilst I had him, but I was never bid 80 guineas for him. The gentleman who offered me 65 guineas had seen the horse previously to my purchasing him. When I went to the Hotwells, I went up the new road to go to Clifton Down. That is not a steep hill. It is a trotting road. I looked over this horse before I bought him, in the way I do any other, to ascertain whether he was sound or not. I told Mr. Fisher, on the 9th of April, that the horse was ill. I was at his place to look at another horse, and I told him so personally. The courses of disease are different in different horses. Chronic and acute diseases take different courses with respect to time. There may be chronic disease existing previously; or, in other words, a part affected by chronic disease may be attacked by acute inflammation, the same as a part not diseased; and, in fact, it would be more liable to be so attacked. Tubercles in the lungs are sometimes longer in forming in one animal than in another. They do not form immediately on acute disease taking place. A horse may have diseased lungs and tubercles, and appear to be in perfect health. I have known many instances of it. He certainly could not gallop, hunt, or run a race; but he could do carriage work.

*Cross-examination continued.*—A horse with tubercles may trot in a carriage without their existence being manifest even to a veterinary surgeon. When a disease has once become chronic, it may remain dormant till something arises to excite inflammation. Tubercles may exist a length of time without injury to the horse, unless he did something violent. I had no suspicion that the snorting cough had any connexion with diseased lungs. It might happen to any horse, but its existence does not shew that the horse has or has not disease of the lungs. This horse never coughed until the very close of his illness. I am not aware that the previous coughing had any thing to do with the lungs.

The two Messrs. Leigh came to my stable on the 12th. I do not know at what time the uncle came, but it was not until the horse had been opened, and the lungs cut to pieces. They were in a state in which he could perfectly ascertain what was the matter. When I bought the horse he appeared to be in perfect health, and was very fat. In my judgment, the inflammation of the bowels first arose on Monday, the 8th of April. I gave him his first medicine before that. I had previously given him a dose on the 4th, 5th, and 6th.

*Re-examined by Mr. Crowder.*—The animal became violently ill on the 8th, and I spoke to Mr. Fisher about it on the morning of the 9th. He did not come to see him. I told him that I thought he would die. I believe Mr. Nathaniel Leigh attends Mr. Fisher's horses. I knew that he was in constant communication with Mr. Fisher. I should think the violent coughing on the 6th had something to do with the lungs. It was such a cough as I should expect to find in an animal whose lungs were in that state. A part

that has had chronic inflammation is more liable to be attacked by acute inflammation to the end of life: and when chronic inflammation has had an attack of acute inflammation immediately upon it, the acute may subside for awhile, and then another attack occur, and each causing more mischief than the last.

Inflammation may arise from very slight cold, such as scarcely would attract attention. I opened a horse yesterday that was perfectly fat with a disease of the lungs upon him. I have seen many such in the course of my experience. I have seen a horse as fat, sleek, and spirited as could be at one o'clock in the day, and dead at night, from the natural termination of the disease: and, with respect to the one I inspected yesterday, it was well on Monday, and at Lansdowne fair. To ascertain whether a horse is lame, it is better to trot him slowly. If he trots fast, he may hide the lameness. We ascertain the state of his wind by coughing him. When he is trotted fast, it is done with a view of shewing his paces and action. At the first hardening of the lungs there are no tubercles. When the lymph is thrown out in the lungs, it takes some weeks to become organized for vessels to pass through it before the tubercles begin to form, and then the tubercles are of slow growth. In my judgment, the tubercles themselves must have been coming for months. In the course of my time I have seen a great many horses with diseased lungs.

When the lung, which is naturally of a spongy structure, becomes hardened, it is the effect of inflammation. It becomes like liver, and impervious to air: in course of time, bloodvessels may or may not form in the hardened part, and the structure of the lung be restored or softened. I do not call it an organic disease until a change of substance has taken place,—I mean a change of the substance of the lungs. When the lungs have become solid, that is certainly a change of organization. When the lungs are slightly inflamed, one of the first symptoms is cough. The cough may be slight, and it may partially or totally subside, and be apparently cured without its being really so. There may be repeated attacks of slight inflammation, and their organic effects may be produced without particular attention being attracted to them. When acute inflammation has subsided, a chronic inflammation may follow, and the acute inflammation may be still existing, but in a minor degree. Before disorganization can take place, it must be preceded by chronic inflammation. As chronic inflammation goes on, the hepatization generally increases by slow degrees. During the continuance of chronic disease, tubercles may or may not be formed; and, supposing them to have been formed, they may be either of quick or slow growth. From the appearance of the tubercles, and the hardness which I felt, I think the disease in this horse must have been of considerable standing. I judge so from the remains of the tubercles which were yet visible, and which had evidently existed to some extent. We cannot tell from the appearances of the lungs the exact period when the disease commenced, but from what I saw I think it must have been before the 26th of February. It could not have had its commencement since the 26th of January. It must have been of some months' standing, perhaps six or eight months. I have not known an instance in my practice of such appearances having commenced and been produced in so short a time as from the 26th of February to the 12th of April.

*By the Court.*—By the remains of tubercles I meant to say that small portions of them were still visible—small yellow spots—they had existed during life, but had been partially absorbed. No treatment could have wholly removed them. There were portions of the tubercles left in the lungs, not merely marks or forms, but portions of them. When we give certificates, we can generally undertake to say whether or not there is disease of the lungs.



but we cannot always do so. Mr. Poole Leigh is a much older practitioner than I am: he came to see the horse after it was opened—he has given up practice now. He had, upon that occasion, a full opportunity of seeing the state of the lungs.

*Mr. Nathaniel Poole Leigh was then called, and examined by Mr. Crowder.*—On the 12th day of April I was sent for by my friend to see a horse examined. I did not get there until it had been opened some time. Mr. Kent had sent several times for me, but it was not quite convenient for me to go: he could not get any one else, and I went. I saw the whole of the lungs except two pieces that had been cut out before I got there. I was there sufficiently long to observe that it had had inflammation of the lungs and bowels. I gave a certificate to Mr. Kent for the purpose of being shewn to Mr. Fisher. I should say the horse was diseased before the 15th of March. I consider that it had been standing for some considerable time,—I should say, at least from three to four months. There was a thickening of the pleura and substance of the lungs,—the lung was become scirrhus or hardened. I concluded from the dissection that long previous disease was indicated. I have been in practice for forty years, and during that time have seen a great many horses dissected.

*Cross-examined by Mr. Erle.*—There was inflammation of the bowels and lungs. The lungs were inflamed all over, but I think the greatest disease was near the centre of the right lobe. The whole of the lungs appear to have suffered from acute inflammation: I think both lobes were affected, but the right was particularly so. The diseased part was near the centre. The lung in that part had lost its elasticity—the diseased part was about the size of a half-crown, and about an inch in depth when cut into: it was to this part that my attention was drawn—it had been cut into before I came there. There were similar patches in two or three places on the lungs: one had been cut out, and another was cut into and placed in a bucket of water; these patches would be the result of acute inflammation, and are formed more speedily at some times than at other times. It is caused by inflammation, which produces a thickening of the membrane that envelopes the lungs as well as of the substance of the lung itself. Upon examination, I found that all these parts were become completely organized, therefore the disease must have been of long standing; I should think that it had been formed longer than three months: I cannot state within a month or two what time would be requisite for that formation, because I must know the habit of the horse and his previous state of health. Inflammation of the lungs frequently occurs without any cough, and it sometimes follows a cough. A horse with inflammation of the lungs avoids coughing as much as he can, on account of the pain which it gives him. Inflammation generally accompanies cough, but we have often inflammation of the lungs without a cough. When the lungs are indurated, the horse frequently recovers. In this case the inflammation had subsided, and left an induration of the lung and a thickening of the membrane. I have seen that induration in various stages of its formation. You can only judge of its progress by watching the treatment of the horse. There is an analogous formation of this kind in a part where it can be seen—a thickening of the conjunctiva of the eye—that varies in proportion to the violence of the inflammation. The thickening of that membrane may be brought on in a few days, for it is a delicate organ. The length of time required to produce this thickening depends on the degree of inflammation. If I had dissected the parts I could have formed a better judgment of the time, for then I could have seen the extent to which disease had gone. I wished that I had been present from the commencement of this trial. I wished to have heard the history of the horse, and then I could have



formed a more satisfactory opinion. After inflammation had gone off, the induration would probably remain till further inflammation ensued. You cannot always tell during life whether a horse has this disease of the lungs. I have seen many after death as bad as the one in dispute, yet who have died without their lungs having been suspected of being unsound.

*Re-examination.*—Horses have died under my care, and I have found their lungs diseased when I had not expected to do so. I have seen a great many examinations of the horse, and wherever I find induration of the lungs I have taken it as an indication of disease of long standing. It is by no means an uncommon thing for a horse to have repeated slight inflammation of the lungs, producing, at length, induration of them. I cannot tell—there is nothing which would clearly indicate—whether the commencement of this disease was a violent inflammation, or whether it was produced by a succession of slight attacks; in either case it must, in my judgment, have been of long standing. Supposing the horse to have exhibited no appearance of disease on the 26th February, nor from that time until the 4th of April, I should still be of opinion that the disease had existed for some time—I should say some months, and it might have been many months.

*John Norfolk sworn.*—I am a veterinary surgeon, and have been so about eighteen years. I have examined the pieces of lung in the bottle produced. They are both affected by disease, but the lower piece alone is altered in structure. Disease must have been going on in it for two or three months, and probably longer. There must have been inflammation to have produced alteration of structure. Active inflammation sometimes terminates in a chronic form. In this the air-cells are broken down and lymph deposited, which makes the cells impervious to air. I have heard of the treatment which this horse received under Mr. Kent. His treatment for the lungs was very correct, but for the bowels I should have acted differently. In mucous inflammation aloes is improper—it is too drastic. I should give it to purge in a case of constipation, but in mucous inflammation I should not give it at all.

*By the Court.*—I have heard the account of the treatment, and, judging from that, I should not have given the aloes.

*Cross-examined by Mr. Serjeant Bompas.*—The air-cells are not destroyed in all cases of violent inflammation. The animal sometimes recovers from violent inflammation, and where he dies the air-cells are not destroyed in all cases. They are never destroyed if he dies from the quickness and severity of the attack. The lungs sometimes present one congeries of blackness even in the short space of twenty-four hours. There is no disorganization in that case, but the lungs are gorged with blood. It has the appearance of being decomposed; that is, from a distance it may appear so, although it is not. In consequence of inflammation there is a deposition of lymph in the air-cells, but I am not aware that they become broken down. It still remains an air-cell filled with lymph. At the period of acute inflammation it is loaded with blood, not with lymph. The lung does not become disorganized in any degree from inflammation in two or three days. What the farriers call rottenness of the lungs is disorganization. That does not frequently happen in forty-eight hours—it takes a longer time. A portion may become rotten in forty-eight hours, but it would be a part which had been previously diseased. A lung would not float under such circumstances; whenever the air-cells are filled with blood, they will sink. In general cases, during a short and violent inflammation, the lung will be so heavy that it will sink.

*Mr. Nathaniel Leigh, examined by Mr. Stone.*—I am a veterinary surgeon of this city, and I have been in the habit of attending Mr. Fisher's horses. I was called in on the 12th of April to examine a dead horse in Mr. Kent's possession; it was a dark chestnut. I opened it and discovered a slight inflammation of the bowels, but I considered the cause of death to be inflammation

of the lungs. A portion of the lungs, more particularly the right lobe, was converted into a solid form, the effect of chronic disease. The left lobe was similarly but not so extensively diseased. I examined the hard substance in the right lobe, which had more the appearance of liver than the natural appearance of the lungs. It had no passages for air through it. I discovered tubercles in both lobes. I took out a portion of the lungs, and preserved it in spirits. In my judgment the cause which produced that state of the lungs must have existed some months.

The original or exciting cause might have been over-exertion or cold, and that would produce acute inflammation, if neglected. The acute inflammation might have been treated, and the person who treated it might have considered that it was cured; but some portion of it might still have remained in a chronic form. Chronic disease is the consequence of acute inflammation. During the period of acute inflammation of the lungs, there would generally be a cough. In chronic inflammation the cough might continue, but not to the same extent. Acute inflammation may or may not entirely disappear: supposing acute inflammation to have entirely disappeared, there would probably be an occasional cough. The lungs, when they are in a state of chronic disease, are more liable to acute inflammation on an inflammatory attack of any other organ.

I tried the lungs in spirits; the diseased part sunk. This is a part I took from the horse [the witness produced a bottle containing a portion of the lungs preserved in spirit]: the part that is sunk is the diseased part; the other is not quite perfect; there is some disease existing in it.

*Cross-examined by Mr. Sergeant Bompas.*—I let the lungs sink in spirits, it also sunk in water. I saw the horse shortly after he died, and at a time when a veterinary surgeon could ascertain the cause of death. The inflammation of the bowels was slight; I should say that the inflammation of the lungs was existing when the inflammation of the bowels came on. In my judgment, the disease of the lungs might have produced inflammation of the bowels. When inflammation is very violent in one organ, it may extend by sympathy to another. The inflammation of the lungs did not appear to be very violent, but it was sufficient to cause death. Some parts of the lungs were not diseased; those that were so, were hard or solid, and appeared to have been so for a considerable length of time. In some parts where the disease was violent, the lungs appeared to be disorganized; this is generally the case where there is violent inflammation. This occurred in patches at various parts—some an inch or two distant from others; it was more particularly so in the centre, but it was more or less throughout the whole of the lung. There was no gangrene or mortification. The lungs were not come to a state of rottenness. There might be acute inflammation without this. There was also chronic inflammation, or the remains of it. Chronic and acute inflammation may exist in the same place at the same time. The centre was more disorganized than the edges; but there was some inflammation there. The left lobe was diseased and disorganized, but not so extensively as the right. Where the chronic disease existed, the acute appeared to have been most violent. The disorganization was of the same kind as usually exists where there is acute inflammation, only more violent. Horses do not usually die of acute inflammation of the lungs, unless chronic inflammation has existed previously; then the acute disease generally puts an end to life in a short time. Simple acute inflammation may continue for a longer time. When acute inflammation becomes violent, there is usually disorganization existing in a corresponding violent degree.

The lungs of the horse occupy the greater part of the chest. When the horse is standing, they are suspended from the centre, and rather in the posterior part. The edges or thinnest parts are dependent, and nearest the

ribs and breast-bone. The centre lobe is not one quarter of the size of the right or left lobe. A person describing the lungs, would speak of them as having a right, left, and a middle lobe.

The characters of disease of which I have spoken, any veterinary surgeon would recognize. We can generally tell, in life, when the lungs are affected, and we can always do so when violent acute inflammation exists. Where acute inflammation has taken place, persons might think it cured, and yet there may still remain some thickening or hepatization of the lungs. This is what we call the chronic form. If the air-cells are closed, the lungs cannot be sound. An animal with chronic disease upon him might appear to be in perfect health. The hepatization of a portion of the lungs might not interfere with him in a tranquil state.

I gave a certificate of my dissection. The thickening of the lungs, in my judgment, interfered with the health and services of the animal. That was always my opinion. I have been in practice in Bristol four years. My house is at Clifton.

Inflammation of the mucous membrane of the bowels is often the consequence of physic of an improper kind or in too great a quantity. It is generally the effect of an over-dose or of improper medicine. I have known it arise from other causes, but never except in consequence of something taken either as food or medicine. I attended at the Veterinary College, and have passed my examination. Supposing the bowels to be in an irritable state, aloes is likely to excite disease of the mucous membrane, if given in too great quantity. In my judgment it would be improper to give aloes after the bowels had been well opened.

*Re-examined by Mr. Crowder.*—If given too frequently or in too large quantities, aloes might irritate the mucous membrane; but if properly administered, it would not produce that effect. It is not an uncommon thing for inflammation of the bowels to come on when a horse has drunk too freely of cold water while hot. I have attended Mr. Fisher's horses for nearly four years. His yard is next to mine. I saw the horse the night before he died. Mr. Kent sent for me. He appeared to me to be labouring under inflammation of the lungs. I did not consider that he had much affection of the bowels. I staid there about ten minutes. The horse was very ill. There can be no doubt that diseases of the lungs like these much affect the horse's usefulness; but in a tranquil state the animal might appear to be in good health. From the appearances after death, I should consider that this horse was not equal to severe work, such as galloping, or going long distances. I took the diseased part produced, from near the centre of the lungs, but I am not certain whether of the right or left lobe. The middle lobe is posteriorly situated against the diaphragm, which divides the cavity of the chest from the bowels. The middle lobe is a portion of the same substance, and discharging the same office. All the lobes are media for the bloodvessels, and have communication with the heart.

*John Virgall sworn.*—I am employed in Mr. Fisher's yard. I was there when the horses were brought home from Mr. Joyce—they were a dark chestnut and a light chestnut. I knew the horse which was sold to Mr. Kent. I heard him cough before he had been in our stable five minutes. I received directions from my master to give him "a nitre-camphor ball" the next day, which was Friday. There was also a hot bran mash given him. The horse coughed for a few days, and we gave him another ball and a mash on the Sunday; it did not appear to benefit the horse much.

*Joseph Starkie, sworn.*—I am a servant in Mr. Fisher's employ. I was there in February last, when the two chestnut horses were brought home. I heard him cough, and I assisted Virgall in giving him the ball and bran mash.

*Thomas Milsom sworn.*—I am in Mr. Kent's employ; I remember his buying the horse of Mr. Fisher. I took care of him and attended to him. I took him out in a cart about four times. I went out with porter and ale. I cannot say exactly the day—he did what he had to do well. I went slowly, just out of a walk. I was out about an hour each day. Clifton was the farthest place he went to, that is about a mile and a half from Mr. Kent's: when the horse was in, I did not sweat him at all. I groomed the horse—he did not appear the worse for going out. Mr. Kent rode him several times. I saw him when he came home—he had not been ridden hard. When he was not rode out he was taken out merely for exercise; I mean the driving in the cart, which was for exercise rather than letting him remain in the stable. I remember his being taken ill, and Mr. Kent gave him medicine. I had not observed any thing the matter with him previously. Mr. Kent and I attended him.

*Mr. Justice Coleridge.*—Gentlemen of the Jury, this is an action between two persons of the same trade, Mr. Fisher and Mr. Joyce—they are both horse-dealers, and the action is brought to recover upon a breach of the warranty of a horse. The question therefore which you will have to decide is, whether or not the horse was sound on the 26th of February. The plaintiff alleges that his contract was made on the faith of the warranty that the horse was sound, and the defendant by the pleadings takes upon himself to say that the horse was sound. I will just tell you what is the outline of the evidence, and then you will be enabled to see more clearly what it is which you have to decide.

In order to prove that it was a sound horse, the defendant traces his history, and calls a person named Holmes, who attended Dr. Blackinstone's horses, and he says that whilst he knew him the horse was well, excepting two days, when he had the strangles slightly. In 1838, in the month of September, he was sold to a Mr. Williams. We have no servant of Mr. Williams's before us to give any account of the horse whilst in his possession, but we find that soon afterwards, in November 1838, he passed into the possession of Mr. Cottrell, who is a horse-dealer living near Birmingham. By-and-by you will have to consider the value of this suggestion. We will therefore suppose for a time that it is the same horse. It appears that Mr. Cottrell had it for a short time, that he then took it to Rugeley Fair, and sold it to Joyce, who is a dealer in horses. We are told that while in Cottrell's possession it was perfectly well, and taken care of, and that while it was at Rugeley Fair it was not at all exposed. Joyce got possession of the horse in December, and keeps it till Bristol Fair, and the two persons who have jointly the care of it take upon themselves to say that it was perfectly sound, and in good condition; and that when sold to Fisher, on the 26th of February, there was nothing to induce a suspicion that it was in the slightest degree unsound. That, gentlemen, is the defendant's case.

Now the case on the part of the plaintiff is this:—He says that it is very true that there was nothing at all in the appearance of the horse to shew that it was unsound; and here, gentlemen, I will remark that you are not to believe the horse was so free from ailment as these men would make out, for you have it in evidence, that whilst at the Saracen's Head the horse had a cough, and that it was pointed out by Fisher as being a nasty cough, which he did not like. Then their case goes on, that on the 26th of February, although it escaped the notice of Mr. Fisher, and afterwards of Mr. Kent, the horse had a chronic inflammation of the lungs; that it had had acute inflammation, which had been imperfectly cured, and had subsided into chronic inflammation. We all know, gentlemen, that the lungs are full of air-vessels for the purposes of respiration, and the plaintiff says that these cells had become disorganized; that they had been filled with deposited lymph; and that instead of being elastic they had hardened, and had become in a

state of disorganization for the purposes for which they were created, and organized for another purpose for which they were not required. It is said that bloodvessels had shot through them, and that they had become hardened like liver, and unfit for the ordinary purposes for which they were designed, and that this state may exist without being apparent; that the horse may have no cough; that he may keep fat, but that still he might not be in a state in which a person had a right to expect him to be. That although he might do slow work, if taken care of, yet if he were used laboriously, or should take cold, acute inflammation would come on, and death in all probability speedily ensue.

Now, gentlemen, if you are satisfied that this state of disease existed on the 26th of February, then, undoubtedly, no matter what disease the horse died of, the warranty was broken. We find that on the 9th of March this horse passes into the possession of Mr. Kent on trial. Now, he is a man who has had great experience as a veterinary surgeon, whose business it is to examine horses, to examine their soundness; and you would say it is quite incredible that Mr. Kent, who would be very careful whilst getting his guinea or half guinea for his certificate, would not be more than ordinarily careful while buying a horse for which he was to pay £60. The defendants say that it is quite incredible that Kent should not have discovered this latent disease.

These are the two cases.

Now, I do not think that it is of any great importance to discuss the question of identity, bearing on the evidence of the first witness, for the issue depends mainly on the plaintiff's evidence.

Pickard, Virgall, and Starkie are called; they do not profess to have any science, but merely speak to the treatment. Pickard says at the time he was sold he had a cough, and that it was pointed out as a nasty cough,—that it did not excite much attention, the defendant merely observing that he would give a warranty. He is then taken home by Virgall and Starkie, and they say that he under their treatment had two nitre balls and two mashes, and their statement is that the horse did not get much better under their treatment, for Virgall says “It did not appear to benefit the horse much,” which statement certainly does appear rather inconsistent with the other testimony, for it would appear that Fisher had him under medical treatment more than we could judge from the plaintiff's counsel or evidence.

From these persons it passed into the care of Milsom, who is Mr. Kent's servant, and he says,— [*The Judge here read Milsom's evidence.*] I will observe that, when he says the horse was only ill four days, there is some little discrepancy between his evidence and Mr. Kent's. This is all the evidence of persons who pretend to no science, and as far as their testimony goes we are unable to discover any cause of death.

But now we come to the evidence of Messrs. Kent, Leigh and Poole Leigh, who, except some evidence by Mr. Kent with reference to the treatment of the horse, speak merely to scientific points.

We take Mr. Kent first, and I will first read to you what he says about the treatment of the horse [*see Mr. Kent's evidence*]. You perceive that though he gave him medicine he did not think he was seriously ill until the 8th, and from that I suppose the servant means to date his illness beginning at the 8th, and ending at the 12th. This, however, is all Mr. Kent's account of the mode in which the horse was treated, and we now come to the evidence of science. And, gentlemen, there is no doubt that upon points of science we have men of the very highest order coming upon particular subjects to different opinions, and yet all professing their opinions to be based on actual experiments. There is no doubt that evidence of science is the most dangerous kind of evidence, and undoubtedly jurors are very much in the power of men of science. I do not know that I can illustrate this much



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better than by supposing that, 1000 years ago, a trial had taken place to ascertain whether the earth moved round the sun, or the sun round the earth. We know very well that people would say we have the evidence of our senses, of our eyes, and we see that the sun goes round us; they would not, consequently, believe the men of science; and yet we know, gentlemen, that they would have argued upon sound principles, principles which, although the people could not understand them, yet must be true. This is precisely the case with the evidence upon the opening of the body. These gentlemen of science say, we saw a state of things which must have existed before the 26th of February.

Gentlemen, you and I may not understand them—we are not men of science, and, therefore, we cannot expect to do so. What we have to do is to exercise our best judgment upon the evidence which is brought before us. The scientific men are called, and they state that the right lobe of the lung and also a portion of the left were disorganized for all useful purposes; that they had become like liver, a close substance; and then they reason on this fact, and say that it began before the sale, and that it was caused by inflammation, which had not been properly cured, and that it had fallen into a subacute state, and deposited this matter; that the irritation had gone off, and the horse appeared well. Certainly, gentlemen, I am only surprised that the appearance of the horse was not more inconsistent with its diseased state. I should have thought that it would have been so. I cannot say it may be so, but gentlemen have sworn to certain facts, and there is no reason why we should disbelieve them.

Then they say that this disease existed in a torpid subacute state, and that the lungs were thereby more likely to become more diseased from other causes; and that, by sympathy, inflammation of the bowels might be brought on. Here I will observe, that, whether the horse died of inflammation of the lungs or of the bowels, as suggested by Mr. Kent, does not much matter. At the same time, however, I must observe that Mr. Kent does not come before you without an interest in the case, for, should your verdict be for the defendant, he would be bound in honour to return the £60. Mr. Nathaniel Leigh then states [*see Mr. N. Leigh's evidence.*] What you will have to decide, then, is whether he is a sensible man, and of acute observation—in other words, whether he is a competent witness. Mr. N. P. Leigh is then called, and he is of opinion that the disease must have existed before the 26th of February. He does not give a very different account, for he says [*see Mr. N. P. Leigh's evidence.*] Then comes Mr. Norfolk, who has not seen the horse, but has seen the lungs, and he says that, in his opinion, the disease must have existed before the 26th of February. I do not know that I need take up more of your time: there are, of course, little differences in the testimony, but the witnesses substantially agree as to the morbid state of the lungs existing before the 26th of February. It will not be your province to say of which disease the horse died. The question you have to determine is, whether or not the horse was sound on the 26th of February.

Verdict for the Plaintiff for the amount claimed.

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## GENTLEMEN WHO HAVE PASSED THEIR EXAMINATION AT THE ROYAL VETERINARY COLLEGE, LONDON.

*January 15th, 1840.*

Mr. G. Broad, Dorking.  
— William Law, London.  
— John Shapland, Barnstaple.  
— W. J. Hinge, Hounslow.

*January 22d.*

Mr. J. Batchelder, Norwich.  
— J. Bowles, Cambridge.  
— R. N. Clarkson, Dublin.  
— J. Plomley, Maidstone.



# THE VETERINARIAN.

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## ON DISEASES OF THE LUNGS IN HORSES.

*By WM. PERCIVALL, Esq., M.R.C.S., and Veterinary Surgeon  
to the 1st Regiment of Life Guards.*

PULMONARY disorders in horses bear even a larger proportion to the number of other maladies than in our own persons. Putting accidents and lamenesses out of the question, we shall find a large majority of the cases presented to us for treatment to be diseases of the pulmonary apparatus; and the most fatal of them to be those which attack the lungs and their enveloping membrane, the pleura. These diseases also evince in horses a rapidity of destructive course, which is not the case with them in men. In our bodies they are rather apt, by slow degrees, to bring their victims to their end; while they will hurry horses off even after but a few hours' duration, and in despite, too, of every measure which medical skill can devise. This, of course, on our part calls for corresponding alertness and decision in our therapeutics; and the more so, seeing that it is not only required of us to save life, but to save organs, and in that normal state, too, in which they may be so fit to carry on their functions that the animal can do his work nearly or quite as well as ever. If he is left with imperfection in his wind, I am afraid we shall derive but little credit by the cure, even though we may have been the means of preserving life.

PREDISPOSITION to pulmonary disease is observed to exist in horses of certain age, form, and temperament. Young undomesticated horses are incomparably more subject to them than such as are aged and seasoned. And such as are high-bred and tenderly reared, and have light carcasses, long legs, flat sides, and breasts so narrow that both fore-legs seem as though they "emerged from one hole," and possess thin skins, are indisputably more susceptible than those of a different breed and opposite conformation.

THE CAUSES OF PULMONARY DISORDERS will, in a general way, be found in the air horses breathe, and in the work they perform: in fact, they may be said to date their origin from the time the animal is taken into the stable and made the servant of man—in one word, from *domestication*.

THE AIR the horse is compelled to breathe while confined in his stable may be *cold* or *heated*, *moist* or *dry*, *pure* or *impure*, considered in relation to the atmosphere out of doors. There can be no doubt that either excess of temperature—cold or heat—must prove excitant to the membrane lining the pulmonary passages; and yet it is a notorious fact, that horses usually enjoy vigorous health in frosty weather. Cold with damp, however, has certainly an unfavourable operation. Wet springs and autumns are commonly productive of a good deal of sickness. Is this to be ascribed to any direct effect upon the air-passages, or is it to be attributed to some operation upon the skin?—and particularly since these are the moulting seasons? In the latter case the lungs become secondarily or sympathetically affected. Even here, however, we appear to require the presence of some stimulant—such as heat or foul air—before disease will shew itself; for horses out in the open air during such insalubrious seasons, rarely, if they do at all, contract the prevailing malady. In a general way, and in regard to its direct operation upon the bronchial membrane, cold must be regarded as a predisponent to disease; and not so much cold by itself, as cold with humidity, or even a particularly drying cold: the probability being that the effects are not owing simply to any sedative operation the cold may have on the membrane, but also to the effect produced upon it as a surface exhaling and constantly covered with a mucous secretion. Cold, then, with more or less moisture than is usually contained in the atmosphere, being considered as the predisponent, our next inquiry must be after the immediate excitant. The late Professor Coleman was in the habit in his Lectures of attributing great influence to the foul air engendered in stables by effluvia from the dung, urine, and breath; and perhaps, in combination with heat, there exists no more fruitful source of disease of the pulmonary apparatus: but I have my doubts whether foul air without heat is often productive of such effects. At the time I did duty with the army in the Peninsula, I remember well that most of our stables, or places used as stables, were dirty and filthy in the extreme, being either without any pavement at all, or so badly paved, that there was nothing like sewers or drains to carry off the urine; and that they were in many places all but roofless, and in most places in a dilapidated condition. In these situations the horses and mules of the army bred farcy and glanders and mange,

but very rarely bronchitis or pneumony or pleurisy. This corresponds with what is observed to be the effect of foul air on the human subject, viz. that it tends to engender *malignant* rather than common inflammations, of which typhoid, gaol, and putrid fever, are examples.

COLD—or wet producing cold—applied to the surface of the body may, however, by causing a reflux or congestion of the blood inwardly, have a sort of direct operation in producing pulmonary inflammation. There can be no doubt about the correctness of this reasoning, nor of its occasionally happening in practice; but I do not, myself, believe that it happens near so frequently as is represented; else would many more racers and hunters, and post and coach-horses and others, fall victims to pulmonic disease than now are known to do. Our surprise is, how the poor slave, who is galloped one hour until dripping with sweat and nearly exhausted, and the next stands tied to a post exposed to the cutting blast or pelting shower, while his master is engaged in business, or regaling himself, can possibly escape; for escape he probably would, even to the last, were it not that he had to encounter when he shall have arrived home—what to him may seem most comfortable, but what in reality is his greatest enemy—the hot foul stable.

OVER-EXERTION OR HARD WORK may induce pulmonary inflammation. The horse, whose case we have been imagining, may, the moment he arrives home, or very shortly afterwards, experience an attack of pneumony. Or, I will suppose another case, a very common one:—A gentleman shall purchase a four or five-year-old horse of a dealer, at the time in fine, fat, sleek condition. Through ignorance or inexperience on the part of his new master, this horse is directly put to work, and immediately afterwards is attacked with pneumony, of which he dies. The gentleman brings an action against the dealer for the recovery of the value of his lost horse, and the result has been that he has obtained it—most unjustly however, for, in all probability, the animal was in perfect health and soundness at the time of sale, and has lost his life entirely from the mismanagement of his purchaser; though, at the same time, no other blame than want of knowledge can morally be imputed to him. It was formerly the custom in the army to put all recruit-horses to severe work in riding-schools, and the consequence was, numbers became lost to the service: now, however, a mild and progressive system of manege is practised, the mortality arising from over-exertion has quite disappeared. Any act of sudden or violent exertion, such as a “splitting gallop,” or a “burst,” is likely to cause a congested state of the lungs, in which condition the horse sinks asphyxiated, and in that

state, unless immediately relieved, dies. This is not inflammation, but is what is very apt to be followed by inflammation, supposing the animal to survive the original shock.

INJURIES, mechanical or chemical, may prove the cause of pulmonary disease. It is possible that the enveloping membrane, or even the parenchymatous substance, may suffer preternatural extension and laceration from violent and convulsive efforts to breathe under certain bodily exertions, such as racing, leaping, plunging, &c. Contusions from falls or blows upon the side might injure the pleura; fractures of the ribs, or sharp instruments, may wound the pleura or lung. And as for injuries of a chemical nature, in this light may be viewed the several pollutions the atmosphere of the stable receives from the effluvia of the dung, the urine, and the breath of other horses. Ammoniacal gas is said to prevail in the effluvia from these excretions; and, therefore, there can be no question about the effects of such an atmosphere being highly excitant and creative of inflammation.

#### DIAGNOSIS.

In the study and observation of diseases of the pulmonary organs our chief aim must be to attain such intimate knowledge of them as will enable us not only to make the necessary distinctions between them, but to so far ascertain the nature of each as to render us competent to treat it to the best advantage, and at the same time give an opinion to be relied upon in regard to its result. Certain symptoms are common to almost all these disorders: that, however, which is of all, if not the most common, the most important, is altered or disturbed respiration. And there are so many degrees and kinds of these alterations in the breathing, that they of themselves, by attention on our part, may be rendered of great value to us in the formation of our diagnosis.

RESPIRATION in health is shewn by a placid, uniform, regular, and hardly perceptible motion of the flanks, at the rate, according to Delafond, of from 10 to 12 breathings a minute in young horses, from 9 to 10 in old; according to Professor Sewell, of from 4 to 8. If horses in the stable are referred to, I cannot but regard the latter standard as much too low. Delafond has given us what he calls a "synoptical table of the different kinds of respiration," from which we may gather some useful practical observations, without pretending to adopt all his finely-drawn distinctions. He makes a division of the different kinds of breathing, relatively, into

1. Acceleration or retardation.
2. Depth of inspiration.
3. Difficulty of performance.
4. Modifications of these.
5. Accompanying sounds or noises.

FREQUENT RESPIRATION is common to all pulmonary disorders

and sympathetic fevers; quick breathing denotes sharp pains in the chest or belly; slow breathing is perceived in cerebral affections and pulmonary emphysema.

DEEP INSPIRATIONS betoken advanced hydrothorax; short ones, which constitute quick respiration, are signs of pleural or peritoneal pains.

DIFFICULT OR LABORIOUS RESPIRATION characterizes acute laryngitis and bronchitis, pulmonary congestion, and all those cases in which obstacle in the air-passages, or other impediment, embarrasses the breathing.

UNEQUAL RESPIRATION has one inspiration deep, another not. It becomes IRREGULAR where the intervals are unequal; INTERMITTENT, when the breath is held or suspended; INTERRUPTED, when that suspension takes place in the middle of an inspiration or expiration; INTERSCINDED, when suddenly arrested and converted into a convulsive action of the flanks or catching of the breath. This last is present in broken wind, but it is in particular characteristic of pulmonary emphysema, and diseases of the heart and pericardium.

THE EXPIRED AIR is also worthy of our observation, as a farther test of the nature of the disease present. In all animals its temperature—ascertained by holding the hand before the nostrils—is a little below that of the body. In frequent respiration, sympathetic fever, bronchitis, and acute pneumony, the breath will be *hot*. In all chronic diseases, and particularly in tubercular phthisis and in pluerisy, both acute and chronic, it will be cold. The breath, inodorous in health, may, under disease of the air-passages or lungs, acquire certain odours. In pharyngeal affections, in caries of the bones, and vomicae discharging through the bronchial tubes, the breath becomes fœtid; but in gangrene of the lungs even putrid in smell.

#### PERCUSSION AND AUSCULTATION.

For years past both these means of exploration of the cavity of the thorax have been practised by veterinarians as tests of the presence of water: it is only, however, since the new and brilliant lights thrown upon the subject by the immortal Laennec that we, in common with surgeons, have derived much real advantage from them; and even now it is only to the practised hand and ear of the man of accurate observation and multifold experience that percussion and auscultation will yield their full products. On this account I shall prefer giving the practice of a French author, Delafond, who appears to have had, and to have profited by, extensive opportunities of observation, to relying upon any thing I might have to offer of my own.

**NASAL CAVITIES.**—The ear, applied to the nostrils of horses, even during repose, hears such a sound as condensed air streaming through some hollow tube would produce ; but through the parietes of the nasal chambers, or the sinuses of the head, no sound whatever can be detected, either by the ear or the stethoscope ; unless after exertion, and then a sort of snoring sound is heard in the former, while in the sinuses a soft murmur only is audible. A tumid condition of the Schneiderian membrane gives rise to the sound of thick wind, which augmented becomes whistling ; and this may exist either on one or both sides. Sounds emanating from the larynx, windpipe, or bronchial tubes, or even from the recesses of the lungs, sometimes retain their force to that degree within the nasal chambers as to lead us to believe they arise there. Such mistakes are easily corrected by applying the ear by turns to the larynx, neck, and chest, the sound being greatest opposite to where it is produced. Snorting, which may be excited at any time by momentarily closing the nostrils, and which is occasionally thus produced to cause the ejection of matter from the nasal chambers, may be put in practice by way of further testing the seat of sound.

**THE SINUSES OF THE HEAD**, tested by percussion, either with the finger doubled, or with a key, or a piece of wood, or, what is better, with a small hammer and a light wooden shield interposed, yields in the young horse but indistinct resonance ; the sound is plainer in the adult, but loudest of all in the old : a difference no doubt ascribable to the changes the sinuses undergo with age. As the resonance of the nasal chambers is diminished by the presence of polypi, or the accumulation of pus, so is that of the sinuses by even but a small purulent collection. Purulent repletion completely deadens sound. At the same time percussion becomes painful, and the frontal bone often convexed.

**THE LARYNX**, in a state of health, yields but a faint sound to the ear. Under disease, however, we may with Leblanc regard the anormal sounds as consisting,—1st. In a *dry whistle*, which is the result of contraction, either from conformation or compression, or of physical or vital lesion of the recurrent nerve. 2d. In a *humid whistle*, the consequence of a tumid membrane covered with mucus, which is sometimes intermittent and accompanied with a guggling noise or mucous *râle*, as in acute laryngitis. 3d. In a *râle* which may be either dry or humid, audible either at the beginning or decline of laryngitic inflammation.

**THE WINDPIPE** yields but little to our listenings, unless it be at the superior and inferior parts. At its entrance into the chest, in the normal condition, is heard the sound of soft blowing, most prolonged during expiration. This respiratory sound, which is occasioned by the air returning from the bronchial tubes into the windpipe, we call, from its situation, *tracheo-bronchial respiration*. Frequency of respiration increases it. When liquids become effused into the bronchial tubes, the *mucous râle* is heard ; and this is often accompanied by the *sibilant râle* and by the *sonorous râle*. In case of effusion of blood into the tubes, the *râle* is *spumous*.

**THE THORAX** affords no information to the feel, except in the case of pleurisy, and then the animal sensibly flinches from pressure sharply applied against the intervals of the ribs. Oxen will even moan from the pain occasioned. Neither *admeasurement* nor *succussion* of the chest produce any satisfactory results.

**PERCUSSION OF THE THORAX** means striking or tapping its sides with a view of judging, from the different sounds elicited, of the normal or anormal condition of the organs within. The chest is said to *resound* when the vibrations raised by the shock extend throughout the chest and the contained viscera : on the contrary, when they appear confined to the place struck, it is said *not*



to *resound*, or that the sound is *dull* or *dead*. The shock occasioning the vibration may be *direct* or *indirect* in its application, it being in the latter case conveyed through some intermediate body—hence the distinction between *mediate* and *immediate percussion*.

IN THE PRACTICE OF PERCUSSION, Leblanc makes use of a small iron hammer and a wooden guard or shield, the latter covered with india-rubber upon the surface to be applied to the chest. The sound thus produced exceeds that elicited by any soft body, such as the hand, against the equally soft skin. Such an apparatus, however, is apt to raise *two* sounds, and, in consequence, Delafond after many trials relinquished this—as well as another somewhat similar contrivance of his own, for the use of the hand simply. The parts to be sounded may be struck back-handed, with the knuckles; or both hands may be employed, one serving as the mediator. In fat animals, mediate percussion has advantages over immediate, not only on account of the external soft parts being thereby compressed, and themselves contributing to the sound, but also because we are able with more precision to test certain places where sound is but very indistinct, as around the cartilaginous borders of the ribs. Notwithstanding this, for the common purposes of practice, Delafond prefers immediate percussion, and practicable with one hand alone; and in performing it, he recommends attention to these rules, viz. First: Let the shock or stroke be given *perpendicularly* to the surface to be sounded: an oblique stroke would deaden the sound. Secondly: The ribs themselves are to be struck, and not the intercostal spaces, bones being better producers and conductors of sound than soft parts. Thirdly: In striking or tapping, the same force should be employed against every part. Fourthly: The same practice, in regard to manner and place, should be strictly observed on both sides of the chest, in order that any comparisons made, may be correct.

PECTORAL SOUNDS will be found to vary according to the region of the chest percussed, the age of the animal, its condition, the full or empty state of its bowels, and its peculiar conformation and organization. Even when all these circumstances appear alike, resonance may be considerably greater in one animal than another. The chest of the horse admits of being percussed either upon the right or left side, from behind the shoulder as far as the last rib: with a view, however, of rendering the different sounds and their modifications distinguishable, it will be best to make some division of this space. Suppose we draw an ideal line, corresponding with the posterior border of the shoulder, and another in the direction of the last rib: the interval between these two fixed boundaries we divide by three horizontal lines into three equal parts, which we designate *regions*, superior, inferior, and middle. The superior region extends from the scapular line to the last rib, along the border of the longissimus dorsi, and includes the superior third of the superficies of the ribs. The inferior region is marked by a line running from the elbow along the superior border of the pectoralis magnus, the insertion of the external oblique muscle and cartilages of the false ribs, and comprehends the inferior third of the said space. The middle region comprises the middle third, between these two lines.

A DIFFERENCE IN THE RESULTS OF PERCUSSION of the chests of men and quadrupeds arises from the circumstance, of that of the one being horizontal, the other vertical in position, and of that of the horse in particular having those large intestines, the cæcum and colon, as well as the stomach, contiguous to the diaphragm; whereas in man the stomach alone partly lies within the boundaries of the chest; these hollow viscera necessarily affecting the sounds elicited from percussion of the posterior or inferior parts of the chest. Had M. Leblanc taken these anatomical differences into account, he would not have allowed himself to run into error as he has done.

THE SOUND OBTAINED BY PERCUSSION is loudest in the middle region, between the 7th, 8th, and 9th ribs. From this to the 15th rib it diminishes; but again increases from this all the way to the last rib. Along the right superior region the sound grows louder from the posterior border of the shoulder to the last rib; whilst on the left side it gradually diminishes along the same line. This difference cannot be explained but from the circumstance of the arch of the colon projecting so far into the chest, it being particularly observable in long-carcased horses. It shews the incorrectness of Leblanc's general rule for ascertaining the nature of sounds, viz. comparing those of the two sides. In the inferior region, the sound obtained upon the 6th rib may be compared to that of the superior region behind the shoulder; this holds as far as the 9th rib, from which point to the last rib the sound gradually lessens, until it becomes abdominal. On the right side the sound becomes somewhat duller, on account of being opposed by the liver. After all, however,—what with the shoulder and the different muscles clothing the chest, and the cartilages of the ribs, which themselves afford little or no sound,—there is really not more than a third of the chest of the horse available for the purposes of effectual percussion; a fact which may very well explain the little advantage veterinarians have hitherto derived from the practice of it. The chests of old animals afford more sound than those of middle age, and these latter than those of young subjects: differences owing to diminished density of lungs and more stability of rib in the aged animal. Lean horses, or such as are empty-bowelled, afford more sound than fat ones, and such as have full stomachs.

We are not to suppose that it is enough to have made ourselves acquainted with the variations of sound of the healthy chest, in order to understand those of disease: much practice is required to estimate the value of sounds; and, after all, percussion itself is often insufficient, unaided by auscultation.

The resonance of the healthy chest may be augmented, diminished, or annihilated. It is augmented throughout the posterior lobes of the lungs when they are emphysematous. Effusion into one pleural sac augments the sound of the opposite one: that lung being compelled to admit more air, becomes more resonant. It is diminished during congestion, inflammation of the parenchyma, and tuberculous phthisis, when much of the lung is diseased. The sound is lost or becomes dead under effusions. This deadness may be on one or both sides, or be confined—as is ordinarily the case if the effusion be recent or inconsiderable—to the inferior part. It will increase or diminish according to the progress or diminution of the effusion. There is no measuring the effusion by sound; but we may throw it by the position of the animal into a place where percussion can easily detect it. M. Leblanc observes, that, taking want or deadness of sound to indicate the presence of water, the lungs are supposed to be permeable; otherwise, the deadness might as much depend upon density of the pulmonary tissue as upon the presence of water: still, there is a method of ascertaining from which it proceeds, viz. by placing the horse in that position in which the fluid will accumulate in the fore part of the chest, and then, should the posterior part still utter a dull sound, we may conclude that the lungs are hepatized. Furthermore, the dead sound may be partial, owing to local pulmonary condensation, circumscribed indurations, &c. &c.

[To be continued.]

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## THE CÆSAREAN OPERATION ON A SOW.

*By Mr. J. B. CARLISLE, of Wigton.*

ON the 11th of July 1839, I was requested to attend a sow, the property of a farmer near this town. The poor animal had been in labour six days. During the last three days she was not able to stand, nor had she taken any food, and her death was expected every hour. She was a very fat animal, and the owner informed me that she was about ten days past her time of pigging, and that he was confident the pigs were dead. I was of the same opinion; and, after a minute examination, felt confident that nothing short of the Cæsarean operation could save her, at the same time informing the owner that she might die in consequence of, or during, the operation.

The operation was consented to, and I proceeded first to secure her legs, and to have them firmly extended their full length, and retained there by assistants. I next placed a bundle of straw underneath her, which gave the belly a round and prominent position, rendering it more tense and firm and at the same time giving me considerable advantage in operating.

My first proceeding was to clear away the hair in the direction of my intended incision, in which I, at the onset, had made up my mind to follow the theory taught on operative surgery, viz. always to make the incisions in the same direction as the muscular fibres, and, above all, never to sever a muscle if it could be avoided. The hair being removed, I was about to make the incisions lengthways, in the course of the linea alba, when it suddenly occurred to me that I should not, in this case, be able to keep the lips of the wound approximated by sutures or bandages, on account of the depending state of the abdomen and its contents. I, therefore, determined to make the incision more on the side, and across the obliquus externus abdominis. I accordingly cut freely through the integuments for about eight inches in length, which I accomplished with a common scalpel. Next I penetrated through the adipose or fatty matter underneath, of which there was no lack; and then cut down on the muscle, at the superior part of the incision, quite through, and exposing the peritoneum. I now introduced my two fore-fingers as directors, and with the curved bistoury laid the abdomen freely open.

The lips of the incision or wound, of course, receded from each other to a great distance, and a slight arterial hemorrhage ensued, which I thought proceeded from the circumflex artery of the ileum. If the incision had been made longitudinally, this might have been prevented, but, as the hemorrhage soon ceased, it was of little con-

sequence. The intestines were much inflated with gas, and protruded as far as the wound of the peritoneum extended.

I now introduced my right hand, and distinctly felt the situation of the uterus and its contents, and was about to make an incision through the uterus, when the animal made a desperate struggle, and some of the small intestines escaped. I found it necessary for an assistant to introduce his hand, to prevent a repetition of this. The bladder was distended with urine, which proved somewhat troublesome, and I had no catheter at hand. I was now about to make a second attempt to open the uterus, when I accidentally felt the pulsation of a large artery. Had I divided the uterus in the same direction as the incision in the abdomen, I should have cut the artery. Was it the uterine or vaginal artery? I placed my hand inferior to the vessel, and felt a young one. Next, with a scalpel in my right hand, guarded at the point by my fore-finger, fearing that the sow might struggle and the instrument wound some of the intestines, I cut through the uterus, introduced my finger, guarding the scalpel, and effected an opening into it about six inches in length. I then introduced my hand, laid hold of one of the foetal pigs, and drew it out. In this way I proceeded until I removed the whole number, which amounted to seven.

The operation being thus far completed, her legs were drawn towards each other, which brought the lips of the wound into approximation, and I retained them there by strong adhesive plaisters, over which I placed a roller passing three times round her body. I now proceeded to examine my patient: she was, as might be expected, in a very weak state, and when her head was raised it fell again upon my hand, as if she was dead. As she lay in this exhausted state, not a muscle except the involuntary ones moving, I gave her a little brandy and water, and then closed the door and left her. The general opinion of the bystanders was, that in a few minutes she would be dead: this was about 4 P.M. Indispensable business prevented me seeing her until ten o'clock, when I was glad to find my patient somewhat revived. I gave more brandy and beef tea, and left her for the night.

At 6 A.M. there was a decided improvement. The extremities were warm; the respiration tranquil, with an occasional grunt and pricking or moving of the ears; some fæces had passed during the night. I doubted whether the bladder had been emptied, and therefore introduced a small catheter, which I use for sheep, &c. and took away a great quantity of water. I ordered more weak brandy and water, and broth.

At 6 P.M. the symptoms were improving, excepting that the side surrounding the incision was a little swelled; I therefore ordered fomentations to be applied, using hot cloths, with but little water.

18th.—Doing well. The excretions regular, and she for the first time voluntarily took a little milk, with a drachm of brandy, of which she appeared fond. From this time she continued to improve daily, and, on the fifth day from the operation, she was able to stand, and fed well. The roller round her body was not removed for a month, and the plaister remained for nearly three months. When it came away the wound was beautifully healed.

This animal has attracted considerable attention in the neighbourhood, and she is now as fat as she can be, and a fine specimen of the short-eared breed.

The Cæsarean operation is seldom performed on the quadruped, and still more rarely with the same good result. This case, however, does not stand unrivalled, even in my county, Cumberland. About sixteen years ago, a farrier of the name of Walker, residing at Brumpton, near Carlisle, performed the operation on a mare, with success. The particulars of the operation I cannot now relate, being at that time quite young, but I recollect that the poor animal was sadly mutilated.

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We are not aware of any other recorded case of the Cæsarean operation, successful or unsuccessful, by our English veterinary surgeons. Most earnestly do we solicit the communication of any such case, successful or unsuccessful. In the meantime we will transcribe one or two from the last and improved edition of Hurtrel D'Arboval's Dictionary.

For the first we are indebted to M. Morange. It relates to a cow, ten years old, that had exceeded the usual period of utero-gestation thirty-seven days. She had manifested all the precursor symptoms of parturition, but they had gradually passed away. When M. Morange was first called to her, her walk was slow, and exhibited considerable loss of power—she ruminated very slowly—her eyes were sunk in their orbits, and she was slightly hoven. On introducing the hand into the vagina in order to ascertain the dilatation of the *os uteri*, it was found to be completely closed, and by additional examination, *per rectum*, it was ascertained that the calf was dead. The impossibility of a delivery being thus ascertained, and, consequently, the certain death of the cow, he, as the last resource, determined to attempt the Cæsarean operation, and that without delay.

The parietes of the abdomen being incised, an enormous quantity of a lightly red serosity escaped; and, the uterus being opened, many quarts of fluid issued from its cavity. The dead fœtus was extracted, and also the placenta, and a re-union of the edges of the wound was effected by the interrupted suture. It did not seem that a suture of the wound in the uterus could be easily effected, nor did it appear to be indispensable, since wounds in this organ



are readily closed by a natural process. A cordial drink was administered, and the beast very soon afterwards got up. Bitter tonics and cordial drinks were then given, and for some days afterwards, but, on the day after the operation, the appetite returned, and rumination was established. Fifteen days passed on, and every thing announced the completest success; when the proprietor, deeming his beast to be altogether out of the reach of danger, and tired of seeing her kept on a restricted diet, inconsiderately gave her a quantity of lucern. Hoove speedily followed, and she died.

M. Gohier relates another unfortunate case, which occurred in his practice. A ewe, four years old, was brought to him on account of protracted parturition. The animal had endured the extremest suffering during twelve hours. There were now very slight efforts to expel the fœtus—excessive debility—very great inflammation and swelling of the lips of the vulva—the evident death of the little one, and the appearance of about three inches of the anterior extremities, without that of the head, which was bent backwards, over the withers—these were the principal things that presented themselves, and the laborious parturition appeared to be attributable to the narrow diameter of the pelvis. Many prolonged efforts were uselessly practised to effect the extraction of the lamb, and, perhaps, they contributed even more than the subsequent operation to hasten a fatal termination of the case. The impossibility of extracting the fœtus being at length sufficiently apparent, and the animal appearing to be otherwise irrecoverably lost, M. Gohier proceeded to the Cæsarean operation, and which he attempted in the right flank. He made an incision through the skin and the muscular substance five inches in length, and then, pushing aside the mass of intestines, he effected a similar incision into the uterus, and extracted the fœtus and the placenta. The intestines were now replaced in their natural position, and the external wound closed by means of sutures. The wound was properly dressed—a bandage was applied over it, and, the sheep appearing to be extremely exhausted, a decoction of gentian was forced upon her. She died on the following day.

On examining her after death, very great inflammation of the uterus and vagina, and some portions of the small intestines, were apparent. The pelvic cavity was very small and irregular, in consequence of an old fracture which the ileum had experienced. The sacral bone formed a considerable obliquity in the cavity of the pelvis—a slight exostosis had grown there, and the head of the fœtus was arrested by it. The vagina and the uterus were sadly bruised and inflamed by the attempts forcibly to extract the lamb.

M. Chrétien, in the fifth Number of the "*Journal Pratique de Médecine Veterinaire*," states some other cases, of which the fol-



lowing is an abridgment. A cow, nine years old, and in poor condition, had exceeded the period of pregnancy about twenty days. She was exceedingly irritable, and was making continual efforts to expel the fœtus. The vulva was much inflamed, and, on introducing the hand into the vagina, the neck of the uterus was found so swollen, that the introduction of the finger was scarcely possible. The sufferings of the beast, and the imminent danger of the case, decided him to have immediate recourse to the Cæsarean operation, as the only means of saving her and the calf.

The cow was cast and secured. M. Chrétien then proceeded to open the right flank two inches anterior to, and a little below the haunch. The incision was six or seven inches long, from above, below, and from behind, forwards, the instrument having been guarded by two fingers, lest the intestines should be injured. The lips of this incision being held apart, he effected an incision with a *bistouri caché*, five or six inches in length, on the superior and middle portion of the uterus, through which he extracted the calf alive. A portion of the small intestine had protruded at the moment of the opening the flank, occasioned by the gas which it contained. This was carefully returned, and several sutures were passed through the opening into the uterus, and also the abdominal muscles and the skin. Some blood, however, had escaped into the abdominal cavity, and although the hæmorrhage had been arrested before the wound was closed, the want of a complete absorption of this fluid, was, probably, the cause of the loss of the animal, who died eight or nine days afterwards.

On examination of her after death, the stomachs were full of food, and the mucous membrane of the abomasum and of the intestines were inflamed. The intestines were distended with gas. The internal membrane of the womb was of a deep red colour, and five or six pounds of blood mingled with a red-coloured fluid were found in the abdominal cavity.

Another cow was brought under the treatment of the same gentleman. The time of utero-gestation had expired—the labour pains had commenced, and the fore-legs of the fœtus presented themselves. The person to whom she belonged had been uselessly endeavouring to draw the legs lower down, and to effect a delivery. M. Chrétien began by attempting to discover the cause of the obstruction: he accordingly introduced his hand into the vagina, and, pushing back the protruding membranes, he felt, before he reached the uterus, a hard tumor, which occupied one-third of the pelvic cavity. She had been under his care for a fracture of the ileum near the hip-joint, which had left some degree of lameness, and the haunch on that side was a little depressed. Penetrating beyond this obstacle, he found the head of the calf turned backwards, and lying upon the shoulder of the foetal animal. It was evidently impossi-

ble to effect parturition by the usual means, and he had recourse to the Cæsarean operation, performed in the same manner as in the last case, except that, at the inferior part of the suture he left an opening through the muscles and integument sufficiently large for the passage of two fingers, and the design of this was to enable him, by means of a small piece of sponge, to stanch or remove, as often as might be necessary, the blood which might be effused in the abdomen, and to leave a free passage for the matter which would be secreted in the suppuration of the wounds. This opening was closed by a bit of sponge, which was confined in its proper situation by means of two little ribands passing through the skin.

The patient was taken all possible care of, and, for several successive days, the sponge was removed from time to time to permit the escape of the blood, or, more properly speaking, the bloody fluid, which daily diminished in quantity. The proper suppuration soon became established; the wound in the abdomen gradually contracted, and, at the expiration of six weeks, was perfectly healed. The animal was, some time afterwards, sent to the butcher, and, on examining her after death, it was found that the cicatrization of the uterus presented a comparatively small inequality—that the fractured bones of the ileum had not reunited, and that there was a callus of large size at its inferior part, which had formed the insuperable obstacle to parturition.

M. Chrétien relates another case, of rather a curious nature. Being desired to attend a cow in labour, twenty-seven days after the usual period of utero-gestation, and that was making continual and violent efforts to expel the fœtus, he saw, with much surprise, a portion of the intestines of the young one protruding. He examined her, and found the fœtus bent upon itself, and that by no effort could he get it into the natural position. He had no other resource but the Cæsarean operation, and, accordingly, he proceeded to perform it. The four extremities were entangled together, and it was not without difficulty that he could disengage the fore ones and bring them out, and also the head. Half of the body was in the vaginal passage, or had protruded from the vulva, and it was impossible to extract the fœtus entire: he therefore cut it in two at the loins, and it was easily removed, one portion through the wound, and the other through the vagina. The proprietor, fearing the consequences of such an operation, determined to send her to the butcher.

M. Charlot also practised this operation on a cow that for three days had been cruelly suffering, and unable to expel the fœtus in consequence of a vaginal cystocele which presented itself in the form of a round tumor, tense and fluctuating. There was, in fact, a laceration in the inferior portion of the vagina, through which the bladder had protruded itself. This was discovered after death, for the cow died soon after her delivery. The calf survived.

Another case is quoted from M. Pradal. A cow, approaching the period of gestation, from time to time made those efforts which accompany parturition. The 15th day passed, and these efforts increased in violence. There ran from the vulva a great quantity of glairy fluid. On separating the lips of the vagina as the cow lay on the ground, a portion of the uterus, as large as a man's head, could be perceived in the passage, pressing against the inside of the lips of the vulva. The teats were hard, distended, and full of milk. The frequent movements of the fœtus could be perceived in the right flank. The cow being forcibly lifted up, and her four limbs supported by four men, the projecting portion of the uterus immediately returned into the abdomen. On the hand being introduced into the vagina, the cause of the delay of her delivery was sufficiently evident. The neck of the uterus was tumefied, hard, and of almost a cartilaginous consistence, and was permeated at its centre by a canal so small and firmly contracted that it was impossible to pass a finger through it. She was suffered again to lie down, and the protruding portion of the uterus could immediately be seen.

The impossibility of extracting the fœtus by the natural passage being sufficiently evident, M. Pradal proposed to the proprietor the abstraction of the fœtus through the right flank. This was immediately agreed to. The operation was performed in the manner already described, and the fœtus readily withdrawn. It was laid on some straw, and dried by means of warm cloths, and then taken to a nurse-cow. She licked it, and permitted it to suck as readily as if it were her own offspring.

The cow was then destroyed by a butcher. This was on every account a pity. Dissection of the uterus exhibited a scirrhus degeneracy of the neck of that organ, and so dense that it offered as much resistance to the scalpel as the cartilages of the larynx would have done.

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[We repeat, that this operation must have been performed by some of our adventurous brethren, yet no record of it appears in any of the pages of our Journal. It is an interesting and important subject. Will some of our practitioners on cattle tell us what they have seen or done?—Y.]

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## A CASE OF SYMPTOMATIC PHRENITIS.

*By the same.*

I AM now attending a horse for what Mr. Blaine terms symptomatic phrenitis. He was attacked by pneumonia, and the case was an alarming one, but by careful treatment I fortunately succeeded in the cure, so far as the lungs were concerned. No sooner,

however, was this accomplished than the brain was seriously involved. I combatted this new enemy, and the animal was gradually restored to a state of convalescence. Nevertheless the secondary cerebral affection has left as its sequela perfect gutta serena. I am conducting some experiments on the case, but I doubt whether they will prove of any avail. I have succeeded in two cases of paralysis of the hind extremities by the use of the nux vomica, given internally. I am trying its effects on the gutta serena case, giving it also internally, and applying it to the surface of the skin during the action of blisters, as near the eyes as possible. The result I will communicate at some future time.

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### A CASE OF BLACK-WATER.

*By Mr. W. A. CARTWRIGHT, V.S., Whitchurch.*

ON the morning of the 14th of October 1839, Mr. Davies, of this town, requested me to see a five-year-old cow of his that was ill. He thought her not quite well the night before when milking her, but she then gave her usual quantity.

*Symptoms.*—I had not been long there before I discovered that she had the black-water. She was hollow in the flanks, and often squirting a little thin dung of a yellowish colour, and straining much in passing it. I caught three or four quarts of her urine, which was the colour of port wine, and not tinged with blood. She was warm and comfortable, and her pulse at the heart full and strong, but her breathing was a little accelerated. I gave her mag. sulph. ℥ss, sulph. sublim. ℥iv, ol. croton gtt. xij, zingib. ℥ij in some gruel; and two or three hours afterwards I administered opii ʒss, and potas. tart. ant. ʒiss, to allay the irritation of the rectum.

9 P.M.—The straining in a great measure subsided in the course of the day, and the dung that she purged since the morning would not fill more than a half peck measure. She has urined a great deal. I ordered that she should have no meat, and be left alone for the night.

15th. 7 A.M.—The bowels have been moved only in very small quantities. She is getting weaker. The urine is about the same colour, and she voids it dribblingly. She grunts a good deal. I back-raked her, and drew a little dung from her. The first that came away was rather hard, but the other was softish, and it was all very yellow. I gave her ol. ricini ℥ss, zingib. ʒvj, and hyd. chlor. ʒj, in two doses, the one-half immediately, and the rest in the course of the morning.

5 P.M.—I found her lying down and grunting a little, but the owner said that she had not grunted so much as yesterday. I caught four quarts of her water of the same colour, and she was

about five minutes in passing it. I do not think her so warm as she has been. The pulse quick and irritable. I raked her, but got little from her, and I found my arm highly tinged of a yellow colour with the fæces. She drank about a quart of warm water. I gave her potas. tart. ant. ʒj, hyd. chlor. ʒj, zingib. ʒij, and gentian ʒij, in two quarts of gruel.

17th.—I got about five quarts of water from her, in the same dribbling way, but it was not so dark coloured. She is getting weaker and colder. I can hear an artery beat strongly, on putting my ear close to the side of the abdomen, between the ribs and the ileum. She has dunged a few bits in the course of the night. I gave mag. sulph. ʒvi, sulph. sub. ʒij, hyd. chlor. et ant. potas. tart. āā ʒj, zingib. ʒiij and gentian ʒss, in some gruel.

12 o'clock.—No better. I gave ol. ricini ℥ss, and ol. croton gtt. xiv.

9 P.M.—The urine in the course of the day lost its dark brown hue, and became of a dirty colour. The bowels have not been opened, and she is very weak. I gave half a pint of port wine in some gruel.

18th, 7 A.M.—I found her lying down, and grunting much. Only about a handful of dung had been evacuated during the night. I got nearly a gallon of water from her, and which was much clearer than yesterday, but she is evidently worse, and can scarcely get up. The conjunctival membranes are not tinged yellow, nor do the fæces do more than slightly tinge the arm. I gave better than half a pint of port wine in some boiled cabbage and boiled rye.

9 A.M.—As no medicine seemed to do good, but rather to weaken her, I gave a quart of wort (new beer) and half a pint of yeast, by the desire of the owner.

12 o'clock—She has had several fits of uneasiness and pain since I last saw her, and now she is lying down, and hangs her head down, moving it about a little scarcely perceptibly, as if the head was affected. The pulse is now much lower and irregular, and below par both in frequency and force; I am fearful she is sinking. I gave her some gruel, with about ʒj of zingib.

1 P.M.—She died.

*Examination.*—About two hours after death, I examined the brain. It was not at all tinged yellow, nor was there any inflammation or engorgement of the vessels, but, on turning the brain out, a considerable quantity of serum escaped. It appeared to me to come in a great measure from the spinal marrow. I should think that an ounce of serum came from the spinal canal on holding the neck down.

About eight on the following morning I examined the remainder of the body.



*Spinal marrow.*—At the withers and at the posterior dorsal vertebræ I cut down to the spinal marrow, and laid bare about six inches of it in each place, but I found no inflammation or effusion within the theca. The exterior membrane was a little discoloured and tinged yellow.

*Paunch.*—This viscus was sound, and about three parts filled with moist food. There was nothing unusual about the appearance of it.

*The second stomach* had about a quart or two of liquid matter in it, of the colour of that in the paunch, but it was much softer. The stomach was sound.

*The third stomach* was quite filled with food, but nearly three parts of it were very soft, and especially so about the canal that leads through it. The remaining part was much harder, but not at all of that dry hard nature that is found in many cases of staking; indeed, I have frequently seen it as bad at slaughter-houses in fat cattle that have been killed there. Where the food was the hardest, the plaits were covered with a blush of inflammation.

*The fourth stomach* was, on its mucous coat, almost entirely covered with ecchymosis, and looked severely diseased. It contained about a couple of quarts of liquid, slimy secretion and food.

*Intestines.*—These were, even on an external view of them, diseased, and had a dark blue appearance. On laying them open the mucous coat was found to be covered with a secretion of a very dark blue colour—almost black. It was not one continuous covering of this colour, but spotted over in specks from the size of a pin's point to a pin's head as thick as they possibly could be set, and which might have been scraped off with a knife. There was scarcely any part tinged with bile.

*The gall-bladder* contained about a pint of bile, of the thickness of good cream, and of a dirty yellow colour. On viewing the substance of the liver, one-half looked tolerably sound, and was so on cutting into it; but the other part had an unsound appearance and was of a clay colour, and on cutting into it appeared to be much diseased. It was of the same colour throughout, and a great deal of it was very soft and in a decomposed state.

*The spleen* was a little engorged, and on making an incision into it I could readily force the whole of the blood out, leaving its cellular structure beautifully shewn. The blood was of a brownish colour, and almost putrid.

*Kidneys.*—One of them was of a paler colour externally than natural, but internally it was more firm and redder. The other appeared diseased as it lay in its situation, and, on stripping off its tunic, was of a dark blue colour where the bowels must have pressed



against it, but this colour scarcely penetrated to any depth. This kidney was much paler and softer than the other throughout nearly its whole substance. There was only a place here and there towards its centre that was redder and firmer; and I do believe that in a few days—had she lived—it would have been a mass of putridity.

*Heart.*—The centre and upper part of the external surface of the right ventricle was studded over with many spots of ecchymosis, and underneath the central spots there was a tumour to be felt within the ventricle. On laying it open I found there was a large tumour, of the size of a hen's egg, situated in the septum ventriculorum. It did not at all project into the left ventricle, nor do I think it occupied above a-third of the thickness of the septum, but it projected into the right ventricle at least an inch and a half. It was about three inches long and two and a half inches wide, and half of its sides were covered with some fibres of the septum, but the point of the tumour was free from them. The membrane lining the cavity had a much whiter appearance than usual in some places, and had a bluish colour, it was also uneven. As I did not open the tumour (on account of preserving it), I cannot say whether it contained serum or an hydatid. The superior part of this tumour occupied the place of one of the carneæ columnæ, which was not at all now visible, but the chordæ tendineæ of one of the tricuspid valves were attached thereto. The outer wall of the ventricle, where the tumour must have pressed the most, was no thinner than the other parts.

*The left ventricle.*—Within this cavity the eminences of the muscoli pectinati and of the carneæ columnæ, and, underneath, the bicuspid valves, were in a great measure covered with ecchymosed spots, situated beneath the lining membrane, and which were very distinctly seen through the membrane.

*The bladder and ureters* were sound. This cow was bulled on the 12th of August last, and I found that the fœtus weighed 2lb 15 oz. Its stomach was distended with about an ounce of secretion similar to the white of an egg.

*Observations.*—Although you have had a great deal in THE VETERINARIAN on this subject, yet I thought I would send you this case, as I observed the patient particularly during life, and carefully examined her after death. In this instance I was well acquainted with the cow, as she was a neighbour's, and I did just what I thought proper with her. She was a most healthy one, being a cross of the short-horn with the old Shropshire; her colour was bay and brown. Where she took on the disease was in a meadow of hedgerow, adjoining a small brook, and the land for a short distance around was generally covered with fogs at night. A few days before, a rearing calf, that she had produced this spring, had black-water in the same field, but a little opening medicine carried off

the disease in the course of the day. From the purging that existed during the first two or three days, and the intense colouring matter in the fæces, one would be led to believe it was a bilious attack. It would appear that the secretion of bile soon ceased, or else was not conveyed into the intestines, as the fæces were only slightly tinged, and there was scarcely any bile to be seen in the intestines after death. There were not any symptoms of disease in the heart, and the owner said she would never fight with any cow, but always got away as soon as she could.

Whatever may be the cause of the black-water, it is very evident that after it has existed a short time it produces a most debilitating effect upon the system, and that most probably from the absorption of bile, but whether from the intestines or from the liver is uncertain. It may at times be either from the one or the other, or perhaps from both during the progress of the disease. In this case, from the great quantity of bile evidently in the intestines during the first day or two, absorption may have taken place from the former, and perhaps from the latter afterwards.

In this case, as in several others that I have seen, how are we to account for the urine becoming clear, and yet the disease going on and producing death? Is it from the superabundant quantity of bile being into of the system, and during that time irritation, disorganization, exhaustion, and death, are produced by the impure circulating fluid?

It is thought that, if the water is "turned" all is right, and so it is generally, but not always. So it is thought that, if the bowels can be well opened, we are certain of a cure; but even this is not always to be relied upon, as I have seen in many instances where I have found the contents of the third stomach perfectly soft and healthy.

There is one very important point that is far from being decided, and that is, Is it an inflammatory complaint, and ought venesection to be had recourse to? Mr. Simonds, of Twickenham, during a debate on the subject at the Association, offered some valuable observations, and was strongly in favour of bleeding; but I think the majority did not seem inclined to adopt it. I am sure in this neighbourhood people completely set their faces against it, and one hardly dares even try to it; but this is no proof that it ought not to be tried. The point is, as I said before, Does inflammation exist? If so, we ought to bleed.

Now, in reference to the *present* case, ought I to have bled? I answer that, taking every thing into consideration, I believe I ought to have done so. There was great disorganization, of the liver especially, and disease in the fourth stomach, bowels, and kidneys, and all, most probably, produced by inflammation. In addition to this, I had a good constitution to work upon: but still I ought to be

careful what quantity I extracted, and not go to work with a ruthless hand, undermining the constitution, but steadily watching the pulse, as ably advised by Mr. Simonds.

In conclusion, I do think that it is imperative upon the profession, especially at the present day, whenever an opportunity occurs to an individual, well to examine the cause and symptoms, and boldly and fearlessly to adapt his treatment accordingly, and by so doing avoid a stain which I almost consider too frequently attaches to us on account of our treating the disease in so empirical a way. Finally, I do say, that we are not perfectly acquainted with the cause or nature of the disease or its treatment, but I do sincerely hope and believe that we are beginning to have a better insight into it, and ere long shall be able to conquer it.

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### ON THE USE OF IODINE.

*By Mr. JOHN HARVEY, Taunton.*

I HAVE been trying the effect of the iodide of potassium, combined with mercurial ointment, in the reduction of tumours. I have used them in the proportions of two ounces of the former to one pound of the latter. A steer, with an immense swelling on one side of the face from the ear to the angle of the mouth, so as to impede mastication, and which had existed for more than four months, and to which blisters had been applied many times during that period, was the subject selected. The swelling, at the commencement of the daily application of the ointment, was intensely hard. Within a week a marked alteration had taken place: the tumour became softer, and considerably reduced in size; and, at the expiration of three weeks, that side of the face was as fine as the other, and the beast enabled to eat hay as well as any other food, and which, before the use of the unguent, he had not been able to accomplish.

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### CASES OF OPEN JOINT.

*By Mr. ED. HODGSON, Market Raisin.*

THE first which I shall offer to your notice is that of a mare, who received a kick over the stifle from another horse standing next her, and which cut through the ligaments at the lower part of the patella in such a manner, as to leave an orifice large enough to admit of three of my fingers, which I could pass between the tibia and patella. She travelled eight miles before she was taken out of the team, and the synovia had continued to escape copiously the whole of her miserable journey. My first thought was to stop the orifice as soon as I could; I therefore took two ounces each of burnt-alum, common salt, and bole-armenian, with which, to use a vulgar expression, I stopped the hole at least twenty times a-day.

I made a lotion composed of plumb. acet., naphtha, and water, and constantly kept the leg, as low as the hock, wet with it; I also bled, and gave physic.

I never use the budding-iron, as I think it tends to increase the inflammation, which, in these cases, is always sufficiently dreadful.

On the next morning I found the leg a great deal swelled, with considerable inflammation. In the afternoon the physic began to operate. I continued this treatment during four or five days, the leg continuing to swell more and more, and the inflammation to increase, but at the same time the orifice to decrease.

I kept a man up with her the first four nights, dressing her constantly with the powders and lotion.

I gave another dose of physic, and continued our old course of treatment until the seventh day, when the swelling and inflammation began gradually to subside, and the orifice closed. In three weeks from her being admitted into my infirmary, she was discharged in a sound state, leaving nothing but a slight scar, not larger in circumference than a shilling. Three days afterwards she was in the team.

The next was a gelding, the property of Mr. Dickenson, of Middle Raisen. The hock-joint was here opened on the inside by a stroke from another horse: this also was a case of a serious nature. I bled and gave physic, and treated it exactly the same as the last, and in a little more than a fortnight it was as well as before the accident happened.

In another case belonging to this gentleman, the knee-joint of a chestnut mare was opened by a hook. This case was treated as the other two; it, however, was a month before it was quite well, owing, I believe, to the action of the knee being permitted.

I could relate many more cases which I have treated in the same way with equal success; and my motive for writing to you is to induce some of my brethren to abandon the use of digestives or caustics in the onset of such cases, having lost a valuable horse from that kind of treatment, and which, if I had adopted my present plan, would, I have not the least doubt, have been perfectly cured, and very soon too.

## A CASE OF ABDOMINAL HERNIA, FRACTURE OF THE FIFTEENTH RIB AND LACERATION OF THE SPLEEN—THE TERMINATION TETANUS.

*By Mr. JOHN J. HUGHES, Gresse-street, Rathbone-place.*

A GREY mare, four years old, belonging to Messrs. Pickford, was wounded in the left side by the shaft of a cart, on the 24th December, 1839. When admitted to our infirmary there were nearly five

feet of small intestine protruding through the external wound, with a considerable quantity of mesentery. The wound was a longitudinal one, measuring about five by four inches. There was fracture of the fifteenth rib, with much contusion and laceration of the contiguous parts. The protruded intestine was considerably distended with flatus, as was also the whole alimentary canal. Small quantities of soft fæces were frequently voided, and she also made repeated attempts to expel a quantity of gas, both by anus and mouth. The pulse was but little affected, as but a few minutes had elapsed since the accident.

As Mr. Daws was gone some distance into the country on professional business, I immediately proceeded to reduce the hernia. I found no difficulty in returning the gut until I got to the last fold, which was with difficulty placed, on account of its distention by gas.

The lips of the wound were brought into apposition by the interrupted thread suture, inserted through the peritoneum, muscles, and integument. A compress was retained on the part by a bandage, and a ball administered containing opii  $\mathfrak{z}\text{i}$ .

Two hours afterwards the pulse was scarcely perceptible. The buccal, conjunctival, and Schneiderian membranes were blanched. A great deal of intestinal irritation supervened, and the poor animal evidently appeared in a sinking state from the severe shock which the system had received. I placed bandages around her legs, and gave her a ball containing aloes  $\mathfrak{z}\text{iv}$ , and also tinct. opii et sp. æther. nit.  $\text{āā } \mathfrak{z}\text{xij}$ , and administered enemata of tepid water. The pulse was now between 70 and 80, and very feeble. Four hours afterwards Mr. Daws removed the sutures, and substituted those of the flexible metallic wire, embracing the muscles and peritoneum with four and the integument with three stitches. The ends of the former were left about two inches, the latter about one inch in length. The lacerated edges of the muscles were also removed.

In the evening the pulse rose, became round, full, and strong, and, fearing that enteritis might supervene, she was bled to the amount of six quarts, when the character of the pulse was altered, and she began to be very faint. No food was allowed, but plenty of tepid water placed within her reach.

*Dec. 25th, six o'clock, A.M.*—The pulse 85, and feeble; the mucous membranes pale, and she shewed great soreness of chest, arising from pleurisy on the injured side. The fæces were soft. A bran mash was given to her, the wound was occasionally bathed with warm water, and a solution of nitrate of potash ( $\mathfrak{z}\text{i}$  to  $\mathfrak{℥}\text{ss}$ ) was employed to correct the fœtor that was beginning to arise from the wound. Enemata were occasionally administered, and tinct. opii  $\mathfrak{3}\text{x}$ , ext. belladon.  $\mathfrak{z}\text{iv}$ , in mixture.

26th.—The pulse was 75; fæces pultaceous, and the respiration quiet. No medicine. The diet, mashes, carrots, and hay, which she ate with avidity.

From the last date to the 28th, the symptoms remained the same, but on the 29th the sutures sloughed away. Mr. Daws then removed a fractured portion of rib about one-and-a-half inch long; he also cut away several portions of gangrenous muscle and cellular membrane. Three more sutures were inserted, but they sloughed away on the following day, owing to the vitality of the parts being destroyed by the severe contusion which she received from the shaft.

30th.—The wound now presents a healthy granulating surface, and very little doubt remains of her recovery. The pulse has nearly assumed a natural character.

January 2d, 1840, five A.M.—Symptoms of tetanus are beginning to shew themselves. The jaw is partially fixed; the tail erect; the ears and legs warm; the pulse 85; respiration 44.

3d, six A.M.—The jaw was completely fixed; the voluntary muscles rigid; the pulse small, feeble, and countless; the respiration laborious. At about ten A.M., she died.

*Post-mortem appearances.*—There was fracture of the fifteenth rib about two-and-a-half or three inches from its cartilage. The soft parts surrounding the seat of injury were in a very healthy state. There was adhesion of the spleen to the peritoneum, and also a tumour in the mesentery, encircled by a fold of small intestine; but this was evidently of long standing.

This case is sent not as illustrative of any new or extraordinary treatment, nor in acknowledgment of that which was erroneous or defective, for there was neither the one nor the other; but as an instance of the sad disappointment of our most sanguine hopes of success to which we are occasionally doomed. What are the circumstances which seem to favour the occurrence of tetanus? What are the symptoms? There were no premonitory symptoms in the present case. The accelerated pulse had regained its natural standard, and the unhealthy state of the wound had quite disappeared. This is a subject which requires more consideration than has hitherto been paid to it.

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## A CASE OF UMBILICAL HERNIA IN A MARE, WITH SLOUGHING OF THE INTESTINE.

*By Mr. F. KING, jun., Stanmore.*

A BROWN mare, four years old, was brought into my infirmary, in August last, with umbilical hernia. Having been successful in several cases by taking up the sac in folds and severely stimulat-



ing it, I adopted the same mode of proceeding in the present case. All appeared to be going on favourably, and she was sent home.

About the beginning of October, a fresh descent took place. I again secured it by ligature, but, being at a distance, I saw it only twice in that month, and once in November. The slough took place, and to all appearance it was going on well, and I thought that there was no necessity to go and see it again. In December, however, the farmer came over with a statement of the case, that I, at first, could scarcely believe; viz. that the mare was very bad, and that the fæces came out where the umbilical sac had existed. I went over to see her, and, sure enough, I found his story to be true. The animal did not appear to be in any pain, and ate and drank tolerably well, but the fæces came out very copiously from the umbilicus. Of course, this state of things could not last. She lingered on eight days, for the farmer would not have her destroyed, and at the expiration of this period she died. I could not bring him to any other conclusion than that I had (as he said) accidentally included the intestine within the ligature, and, therefore, I said nothing more to him on the subject. On examining the parts, I found that the intestine passed over the original aperture in the abdominal parietes, and adhered firmly to its edges, and that a portion of the intestine of the size of a crown piece had sloughed away; otherwise, there was no inflammation or disease of the intestine. The slough of the intestine not taking place until at least a month after that of the sac, my mind was quite easy as to the farmer's conclusion; on the whole, it was rather a singular case, and one which never occurred to me before, yet I have treated in the same way several horses with umbilical hernia.

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### A CURIOUS LIBEL.

[The following document has reached us from one of the Scottish Courts. It is a singular proceeding, and will afford some amusement to our readers. It exhibits very considerable and praiseworthy spirit in the Plaintiff. For obvious reasons we suppress the names.]

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OUTER HOUSE, OCTOBER 1838.

*Summons of Damages—A.B. against C.D.—E.F. W.S., Agent.*

Summons of damages,—A. B., veterinary surgeon, residing in —, in the county of —; against C. D., tenant in —.

VICTORIA, &c.—Whereas it is humbly meant and shewn to us by our lovite A. B., veterinary surgeon, residing in —, in the county of —, *pursuer*,—That it having been proposed that such

of our loyal subjects resident in the said town of — as were so inclined should celebrate the event of our coronation by dining together in an inn called the — Inn of that place, on Thursday the 28th day of June last, being the day of our coronation, a paper or writing was publicly exhibited on the 26th day of the said month, bearing that the persons who were expected to be present at the said public dinner were to be residents in the said town, and such of them as were willing to join the party at said dinner were invited to subscribe their names to the said paper, that the landlord of the inn might have an idea how many were likely to be present: That the said paper or writing was exhibited to the pursuer after the names of some other persons had been put thereto, and he, being desirous to join his fellow-townsmen in publicly expressing his loyalty and attachment to our person in the manner proposed, subscribed his own name to the said paper, and applied for and obtained the names of several other persons thereto, as an intimation that he and they were to be present at said dinner: That after the pursuer's name had been so subscribed, the names of eleven other persons were added to the said paper, and the whole names thereat were twenty-five in number: That after the pursuer had so subscribed his name, he was absent from — until the evening of the said day of our coronation, when he returned thither, intending to be present at said dinner party; but upon his return, a letter signed by G. H., the keeper of the said inn where the said dinner was held, and addressed to the pursuer, was delivered to him, and which letter, herewith to be produced, was in the following terms: —“Dear Sir, I have been called on to-day, and am desired to state, that you cannot be admitted to the dinner party this evening. I have thought it best to send you this note, in order that you may not commit yourself and me by appearing.—Your's truly.” (Signed) “G. H.” (Addressed)—“To be opened by himself only—Mr. A. B., V.S., —:” That the said letter was written and caused to be delivered to the pursuer by, or by the directions and through the influence or instrumentality of C. D., tenant in —, one of our justices of the peace for the said county of —, defender, who having conceived a groundless malice, hatred, and ill-will against the pursuer, did therefrom falsely state or represent to, or by false and groundless insinuations and inuendoes, wilfully and intentionally cause it to be understood and believed by the said G. H. that the pursuer was a person of a disreputable character, unfit and unworthy to associate with his fellow-townsmen, and improper to be admitted to the said public dinner party; and the defender, in violation of his duty as one of the conservators of the peace under our commission, and as a peaceable subject, did, through the words written in the said letter, and causing the same to be delivered to

the pursuer, mean and intend to insult the pursuer, and hurt his feelings, by expressing or insinuating, and giving him to understand that he the pursuer was represented and held forth by the defender to be a person unfit and unworthy to associate with his fellow-townsmen, and to be admitted to join with them in their demonstrations of loyalty and attachment to our person at a public dinner: That the defender's said statements, representations, insinuations, and inuendoes, expressed to the said G. H. in reference to the pursuer, his character and status, were false, malicious, defamatory, and injurious, and were uttered, *inter alia*, for the malignant purposes of traducing the pursuer's character, detracting from his just and true status in society, and outraging his feelings and the feelings of his family and friends; and the writing and delivery of the said letter to the pursuer, the expressions therein contained, and the import and tendency thereof, did deeply injure and insult the pursuer, and grievously hurt and outrage his feelings, and distress him in his mind: That although the pursuer applied, both personally and through his agent, by a letter, to be herewith produced, to the defender for an explanation of his conduct in the matter before detailed, or an apology therefor, before raising the present action, the defender, unmindful of his duty as one of the conservators of the peace, and holding our commission for that intent, continued to treat the pursuer with insult, and further evinced that his, the defender's, conduct in the said matter proceeded from feelings of malignity towards the pursuer, and a fixed design to insult him, inasmuch as the defender declined to give any apology for or explanation of his said statements made to the said inn-keeper, and the writing and sending to the pursuer of the said insulting letter, contemptuously refused to make any answer to the said applications, and returned the said letter of the pursuer's agent in a blank cover, to be also herewith produced: That the pursuer bears, and has always borne, both privately and professionally, a fair and upright character and reputation: That he has for sixteen years past carried on an extensive business as a veterinary surgeon in the district in which he resides, and enjoyed the confidence and approbation of his employers, and down to the date hereof has, with the exception of the said dinner party, been received and without objection associated with at every public and private entertainment which he chose to attend: That the pursuer, by parentage, status in society, and personal character and conduct, is not inferior to any of his fellow-townsmen whose names were on the said paper, or who could have attended the said public dinner, as will be proved before a jury in the action to follow hereupon: That the defender does not reside in —, and so was not one of those of whom the said dinner party was stated in the said sub-

scription paper as intended to be composed, although the pursuer and the other promoters of the said demonstration of loyalty and attachment to our person, having only that object in view, willingly conceded to the defender the privilege of joining in the said public dinner party: That the defender had no right or privilege to cause any person to be excluded from the said dinner party, and he had no compulsive cause for making to any person any statements whatever, and far less the said injurious statements, in reference to the pursuer, his character or status: That the pursuer is entitled to defend his character and status against every aspersion cast upon him; and the defender having causelessly traduced and defamed the pursuer's character and reputation, and injured and insulted him, is bound, more especially in the above circumstances, to make reparation; and although the pursuer has often desired and required the said defender to make reparation, as after specified, for the said insult and injury sustained by the pursuer, yet he refuses, at least delays so to do: Therefore the said C. D., defender, ought and should be decerned and ordained, by decret of the Lords of our Council and Session, to make payment to the pursuer of the sum of £500 sterling, in name of damages, and as a *solatium* for the injury sustained by him in his character, reputation, and feelings as aforesaid, and of the further sum of £100, or such other sum, more or less, as the said Lords shall modify, as the expense of the process to follow hereon, and of extracting the decret to be pronounced therein, conform to the laws and practice of Scotland used and observed in the like cases, as is alleged.—Our will is herefore, &c.

*Dated and signeted, 11th October, 1838.*

[This summons having been issued and active proceedings taking place, the Defendant was glad to settle the affair by apologizing, and paying the expenses, which amounted to £50.—Bravo !]

## A CASE OF TETANUS, WITH RUPTURE OF THE PERICARDIUM.

*By Mr. G. M. MARSHALL, York.*

*August 17th, 1838.*—I WAS this morning at four o'clock called by one of the horse-keepers to a brown horse, nearly thoroughbred, which he said was bad with the belly-ache. I immediately went to him. The case was plain enough: I found all the symptoms of tetanus developed. The jaws were completely locked—the muscles of the body rigid—the muzzle thrown forward—the membrana nictitans drawn over the eye—the tail elevated

and quivering—pulse 44—the respiration laborious, and his body covered with perspiration.

I had him immediately removed into a loose box, and administered to him in solution aloes Barb. 5x and tinc. opii, 3ij. In giving him the medicine as gently as possible, by means of a long-necked bottle, he threw himself down. I seized the opportunity of giving the remainder of the mixture, and extracting ℥xvi of blood, after which I fancied there was a slight relaxation of the symptoms. A blister was then applied over the spine, sides, and surface of the abdomen. Two sheep-skins were thrown over him, with a view of exciting a copious perspiration. He was then left, no person being allowed to go near him, as the least noise caused great increase of the spasms.

11 P.M.—Very little alteration, and nothing has passed the bowels. I gave a clyster, in which was dissolved crude opium 3ij, and aloes 3iij. Pulse imperceptible at the jaw, respiration very laborious.

4 P.M.—He continued to get worse. The blister has taken some effect under the abdomen. Put thirty drops of croton oil on his tongue, as all my dependence is on getting the bowels to act. A few pellets of dung came from him, which were covered with a thick coat of bloody mucous. I administered a clyster, which he resisted very much.

6 P.M.—On going into the stable, I heard a thumping sort of noise, as if it proceeded from the box at the farther end of the stable in which he was, and it turned out to be the case; the noise was occasioned by a strong spasmodic action of his heart. He was suffering very much, and constantly kept his nose in a bucket of gruel, which was before him. I left him for a few minutes to get one of the men to assist me in bleeding him, and giving him a draught composed of hydrocyanic acid and magnes. sulph. in warm water, thinking by so doing to lower the action of the heart; but on returning to the stable I found him dead, with the straw scarcely disturbed.

*Post-mortem examination one hour after death. Abdomen.*—There was a great deal of inflammation around the pyloric orifice of the stomach, and which extended for about six inches along the duodenum. The jejunum and ileum were not inflamed, except a small portion of the latter, where it terminates in the cæcum. The mucous coats of the cæcum, colon, and rectum, were considerably inflamed, as was also the mesentery. The large intestines contained a quantity of hardened fæces.

*Thorax.*—The lungs were gorged with red florid blood. The heart was much enlarged, and the pericardium ruptured. There was no blood in the heart. The larynx, and the trachea half way down its course, were much inflamed.



## ON GLANDERS AND FARCY, AND THE EFFECTS OF THE DINIODATE OF COPPER.

*By Mr. T. MAYER, jun., V.S., Newcastle-under-Line.*

THERE is no disease in the horse which has more completely baffled the profession in correcting its fatal career and effecting a cure, than glanders. It has, for many a year, engaged the earnest attention of our most celebrated practitioners; and, although many of them have succeeded in elucidating its nature and general characters, and the different organs and organic tissues which it affects, they have, until lately, advanced but a little way towards the perfect eradication of the disease.

This cannot be wondered at when we consider that, after it has progressed to a certain point, it occasions such extensive alterations of several of the viscera, and particularly of the lungs, as is totally incompatible with their carrying on the functions which are indispensable to vitality, and which no remedial measures can restore to their healthy state. We should, not, however, despair because we cannot accomplish all that we wish, but exert ourselves as far as circumstances and the means which we have at our disposal will permit.

In venturing to address the Editor of THE VETERINARIAN on this important subject, let me not be supposed to imagine that I can effect more than others far abler than I have done: but as I have found in the diniodate of copper that which I consider a far more powerful medicine than any that I had previously employed in combatting glanders and farcy, it is a duty which I owe to the profession to lay the results of my short experience relative to it before them, in order that others may be induced to give it a fair and a full trial, and lay the result before the public. Then, I hope, a most important and powerful medicine may take that proper station in our pharmacopœia which it is so justly entitled to.

Whoever has read Dupuy's work on glanders cannot but lament the dreadful ravages committed by this disease. He gives a history of almost numberless morbid examinations of horses destroyed by glanders. His work does him great credit for the zeal and industry which it exhibits, but which unfortunately led to no happy results in a remedial point of view.

This excellent author was not correct in the conclusion that glanders could not exist without the previous formation of tubercles, or, in other words, that tubercles were the proximate cause of glanders; for Vines has shewn, in his morbid examinations of this disease, that it can exist without tubercular formations in any of



the tissues of the body. I consider that there is a point of time when it is confined simply to the Schneiderian membrane, and without ulceration, just as gonorrhœa in man is confined to the mucous surface of the urethra. In these cases the general health is not affected, and we only observe a running at one nostril, accompanied by an enlargement of the submaxillary gland on the same side. If proper medicines are administered at this period, we have repeated instances of cures being performed.

I would remind the reader of the practice which our forefathers adopted of excising the enlarged submaxillary gland; and although they have not stated any rational grounds on which they founded this operation, yet it will be found to have been based on sound practical experience. Whoever will take the trouble of dissecting out this gland in any animal that has died in consequence of glanders, will find that the sympathetic irritation, having existed for a certain period, has occasioned the formation of pus in the centre of the gland, and which, I have no doubt, would communicate the disease by inoculation. It is, therefore, highly important to prevent its absorption into the constitution. We are too apt to treat with contempt the practical points of those who have gone before us, instead of candidly weighing their merits and demerits, and putting them to the test of experience.

In farcy it is the superficial lymphatics which are first affected, and the farcy-buds occur only at the situation of the valves. Reasoning from analogy, I should consider the tuberculous formations met with in the different viscera, and particularly in the lungs, as dependent upon the diseased action set up in the deep-seated system of lymphatics which ramify innumerable in all directions through the different tissues, and that the tubercles are merely the result of the inflammation set up at their respective valves, followed by a deposition of lymph, which, accumulating, becomes organized, and runs on to suppuration and ulceration.

It is a well-known fact, that, in farcy, the diseased action set up in the superficial lymphatics and the consequent formation of buds, or superficial tubercles, can be corrected or destroyed and a healthy action established, which terminates in the restoration of the parts affected to their original state; and I see no reason why, if the remedies are early employed, the same results should not follow as regards the affection of the deeper course of lymphatics.

If ever there was a remedy more competent than another to produce so desirable an effect as the reabsorption of tuberculous deposits in the different tissues of the animal frame, and to reduce the diseased action to a healthy one in glanders, it is the diniodate of copper.

Mr. Bracy Clark has strongly recommended the sulphate of

zinc in this disease ; but I am not aware, although it is a valuable tonic, that it has been brought into any practical test by practitioners at large.

Mr. Vines has given the palm to cantharides; and, in his hands, combined with his peculiar tact in managing this disease, he has accomplished much both in farcy and glanders, and, although his remedy does not seem to have been very generally adopted by the profession, it is a valuable one, particularly in old chronic gleet from mucous surfaces.

Mr. Sewell—to whom the profession is highly indebted for bringing into a conspicuous point of view the possibility of curing glanders, at a time when practitioners were sleeping upon their oars, and had given it up as a forlorn hope—recommended the sulphate of copper. It is certainly one of our most powerful remedies in correcting the diseased action set up in cases of farcy and glanders, not only from the testimony of Mr. Sewell, but likewise from that of other practitioners. My father and self have employed it many years (although it emanated originally from the College), and we have been particularly successful in farcy, and occasionally cured cases of glanders even when accompanied by farcy.

Mr. Robinson, of Tamworth, has also been equally successful with it. However, with all these advantages in favour of sulphate of copper, we have a still more powerful controul over farcy and glanders, in my opinion—thanks to our friend Morton!—in THE DINIODATE OF COPPER.

I promised Mr. M. that the first opportunity we had we would test the capabilities of his new remedy, and one occurred in a black draught horse, on October 23, 1839. Farcy buds had appeared at different points, particularly up the off fore-leg, and more slightly upon the near leg. The horse was off its feed, dull and languid. There was running at both nostrils, accompanied by enlargement of the submaxillary glands, particularly the gland on the near side. There was general febrile action, shewing that the matter had been absorbed into the system.

We commenced by cauterizing all the farcy-buds and ulcers, and exciting a fresh action in the parts affected, so as to destroy the diseased one. The enlarged submaxillary glands were rubbed with iodine ointment daily, and, for the first fortnight, the general treatment was an antiphlogistic one, so as to get rid of the first blush of inflammatory action.

We then commenced with the administration of drachm doses of the diniodate of copper every day, or every other day, until December 18th, by which time the ulcers had all healed; the discharge ceased at the nostrils, and the enlargement of the submaxillary glands was gone. The horse was ordered to work, and has continued

to do so ever since without any untoward symptom. This was a case which I considered as a forlorn hope; and, although I had often tested the effect of the sulphate of copper under similar circumstances, yet it had failed, and, had it not been for the desire I had to do full justice to this untested remedy, I should have destroyed the animal, sooner than have risked him upon the establishment he belonged to. We have also tried its effect in the same doses upon chronic indurated swelled leg, where repeated attacks of inflammation upon one hinder leg has left it permanently enlarged from cellular depositions. Its effect is very powerful, combined with the application of wet bandages.

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### A CASE OF CONSECUTIVE ABSCESS.

*By Mr. R. METHERELL, V.S., Spalding.*

ON Tuesday the 27th of August last, I was sent for to see a valuable five-year-old cart mare, the property of a neighbouring agriculturist, Mr. F. Burghnell, of Spalding Common. She had been taken up from grass, and shod on the previous Saturday, and was intended for Spalding Fair on the following Wednesday. It, however, happened that, on Sunday morning, she fell very lame in the off fore-leg.

The owner, concluding that the lameness arose from ignorance or neglect, or both, on the part of the shoeing-smith (as is too often the case), sent for the smith. The shoe was taken off, and the foot examined; but nothing could be detected to cause lameness in that part. She was then pronounced to be chest-foundered, but no decisive measures were immediately taken. As the evening approached, a swelling of the arm was recognized, and the lameness rather increased, and continued to do so until Tuesday morning, when I was sent for.

On examining the mare, I found a considerable swelling of the muscular portion of the arm, both the flexors and extensors being involved, with much heat, tension, and difficulty in extending the leg. The pulse was 55, and intermitting, and the mucous membranes somewhat injected; but the breathing was tranquil, and the heat (with the exception of the swollen portion of the arm) uniformly distributed over the body and extremities. There was no constipation of the bowels, no suppression of urine, and but little loss of appetite.

I commenced the treatment of this case by local bleeding, and for which the superficial brachial vein was selected. Eight pounds of blood were abstracted. A seton was inserted in the chest, and

dressed with the ung. lyttæ. A mild aperient was administered, and fomentations ordered incessantly.

*Wednesday 28th.*—The swelling is increased—pulse 60—the bowels have been acted upon—the urine is regularly voided; the appetite, heat, respiration, &c. as on the previous day. Repeat the bleeding, and continue the fomentation; dress the seton with the ung. tereb. com.

*Thursday 29th.*—The swelling still increasing—pulse 64; the appetite much diminished. The respirations have become accelerated and the fæces are voided in the usual quantity, but firmer in consistence. The distribution of heat is still uniform, and the mucous membranes but little injected. The seton has discharged some purulent matter. Give an aperient; repeat the ung. tereb. to the seton, and continue the fomentation.

*Friday 30th.*—The swelling is now enormously large, and, on pressure by the hand on the extensor metacarpi magnus et pedis muscles, at the supero-anterior part of the radius, fluctuation can be distinctly felt. Abscesses about the size of farcy-buds are formed in the cellular tissue subjacent to the skin on the obliquus externus abdominis muscle. My patient now sunk into a very languid state; the energies and vital resistance of the system were greatly impaired. The head was depressed—the circulation weak and rapid—the appetite still more impaired—and the breathing laborious at intervals. An incision about an inch in depth was made with an abscess-lancet into the part where fluctuation was felt: more than half a pint of purulent fluid of a greyish colour, with small minute coagula of blood, escaped. The postero-internal part of the arm was scarified, from which there flowed an adhesive albuminous fluid. The terebinthinated compound was applied to the seton, and the fomentation continued.

*Saturday 31st.*—The swelling is somewhat reduced—the pulse still increasing in frequency, and approaching 80—total loss of appetite—stupor—the head frequently depressed, and forced against the wall—the breathing laboured at intervals. Small abscesses continue to form in the cellular tissues. The evacuations have ceased, and neither fæces nor urine having been voided during the day. A vast quantity of greyish matter with minute coagula of blood has escaped from the abscess, which had been punctured on the previous day. An aperient was again administered. The seton was kept discharging by the ung. tereb., and the fomentation continued.

*Sunday, Sept. 1st.*—The symptoms which presented themselves were those of the most alarming nature. The animal was delirious, and epileptic fits came on at intervals. The pulse above 100—pupil dilated—nostrils expanded—breathing laborious—grind-

ing of the teeth—the buccal membrane of a dark colour, and its secretion fœtid: muscular twitchings now supervened. These symptoms continued, or rather rapidly increased in violence, until the following morning, when death closed the scene.

On post-mortem examination, the following lesions were found. The diseased extremity, which was the first part that occupied my attention, was detached from the trunk, and minutely investigated. A sinus about three or four inches in depth was formed between the extensor muscles at the superior part of the radius, and it contained some quantity of fluid of the same character as that which had previously escaped. An abscess had also formed in the axilla, which contained purulent matter. The cellular tissue from the superior part of the arm to (and below) the knee was much thickened, and presented a yellow and jelly-like appearance. The abscesses formed in the cellular tissues subjacent to the skin on the abdominal parietes contained a limpid kind of fluid.

We then proceeded to investigate the abdominal and pelvic viscera. The intestines were considerably diseased, the large ones being mostly involved. Their coats at various parts were much thickened, and, being cut into, a glairy fluid was seen to ooze out. At other parts spots of ecchymosis were developed. Their contents were lax, and somewhat fœtid.

The stomach and its contents did not present any abnormal appearance, the latter being principally of a liquid kind. The liver had a most singular appearance. Its texture was softened, and its colour similar to muscular fibre in a state of gangrene. The spleen and omentum were universally dark in colour, and the latter was so softened that the slightest touch would cause laceration.

On removing the left kidney from its situation, an abscess was found within the capsule, containing five or six drachms of purulent matter. The bladder was void of urine, but an inspissated or viscid material was found occupying a small space in the fundus of that organ.

We then proceeded to expose the thoracic viscera. The lungs were extensively diseased. Some portions had tubercles, others had vomicæ, and others hepatization. On making an incision into the pericardium, an immense quantity of fluid escaped, deviating as much from the natural quality as from the usual quantity: in fact, all the secretions appeared more or less deranged.

After these observations had been made, our attention was directed to that all-important and vital organ the brain, and we removed the parietal and occipital bones. The lesion which first occupied our attention was unusual vascularity of its external envelope (the dura mater); and, on reflecting back this membrane, we found an abscess containing pus developed between it and the pia

mater, on the anterior part of the left lobe of the cerebrum. The pia mater was also deeply injected.

I have thus described (but not so distinctly as I could wish to have done) the symptoms, treatment, termination, and post-mortem examination, of this fatal case. As to the origin of this purulent formation in the arm, no opinion has been advanced; in fact, it appears to me to be wrapped in utter obscurity. Should, however, any of your readers unravel the mystery, I would beg them to make some observations relative to the treatment, and communicate their opinion through the medium of your valuable Journal.

One observation, however, I would make with regard to those formations of pus designated consecutive abscesses. Inflammation and suppuration having taken place in the arm, absorption by the lymphatic vessels ultimately followed, and portions of the pus having now entered the venous system, became mingled with, and vitiated, the general mass of blood. The circulating current, thus charged with irritating matter, changed the state of the capillaries of some of the structures, the result of which was collections of purulent matter in the situations in which they were found.

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## ON MOCHA OR BOMBAY ALOES.

*By W. J. T. MORTON, Esq., Lecturer on Veterinary Materia Medica.*

THE value of purgatives, and the agents usually employed, are too well known to need any comment. They are therapeutics, nevertheless, often abused by ignorant pretenders, although, happily, the light of science has dispelled the absurdity of their stirring up and ejecting the humours from the system; and it has now almost ceased to be thought necessary, under ordinary circumstances, violently to purge an animal, as was once the case. Certain states of the body may demand active purgatives, but the employment of these call for the judgment of the educated veterinarian. My object, however, is, not to point out the value of cathartics, but to offer a few remarks on the agents usually employed in veterinary practice in order to produce purgation in the horse.

The possession of an agent on which reliance could be placed appears to have been long sought after, and is at length found. The older practitioners were at a loss how effectually to bring about the desired action of the bowels designated purging, and hence the absurdity of many of their compounds. By the common consent of the moderns, preference is justly given to aloes; and although this



drug may occasionally call for an adjunct—the combination of purgatives having been, in my humble opinion, too much neglected—yet there is none so safe and so certain in its operation as this.

The kinds to be used have divided the opinions of veterinarians. At one period the Socotrine extract was alone advocated; then followed the Barbadoes, and next came the Cape. The first of these having ceased to be met with in the market, although other extracts were substituted for it by the designing, necessity compelled the employment of one of the other two. Analysis at once pointed out which should be chosen; but from the frequent scarcity of the Barbadoes extract, and the high price it was in consequence sold at, attention was directed to that obtained from the Cape of Good Hope, where the same plant abounds as that which yields the Socotrine. This, although containing less of the active principle, was found, if the dose was duly apportioned and the horse properly prepared, to effect all the desired purpose, unaccompanied by any drastic effects, and, therefore, it required no corrective to be conjoined with it. Hence the Cape extract has been employed during many years at the Royal Veterinary College, and in the army. In private practice, from the almost impossibility of previously preparing the animal, and the want of subsequent attention, this extract has not been generally preferred, although I am acquainted with many who use it. My opinions on this subject are elsewhere recorded, and, therefore, I proceed to observe, that lately my attention has been directed, by Messrs. Mayer, jun. and Snewing, to another kind of aloetic extract, which they have employed with decided success in their practice, and which I have since ascertained has been tried by others; but as no one, that I am aware of, has ventured to give publicity to it, I will do so. At the same time I would cordially thank those gentlemen for having communicated to me the result of their experiments; and if I am correct in what I am now about to adduce, and the same effects should be obtained by others as by me, the thanks of the united profession will be due to them. Would that there were a more ready communication between the members of the profession—an interchange of sentiments, and of practice! for by it all would be sure to be benefitted.

The extract of which I am now about to speak, is called in the market the Mocha or Bombay aloes. Its finer samples have been long sold by druggists as the Socotrine, and I doubt not that they are quite as good; being made in the various islands in the Straits of Babelmandel, from the *aloë spicata*, the same plant as that which grows at Socotra, where much care was taken in the preparation of the extract, and hence its estimation. I have before said that the genuine Socotrine aloes is no longer to be met with in the market.

The characters of the Mocha or Bombay extract are as follow :—colour, of a dull liver-brown ; fracture, smooth and opaque ; odour, aromatic ; taste, bitter and nauseous ; powder, yellowish brown.

In all the samples I have seen there are many impurities mixed with the drug, apparently the result of a want of care in its preparation. It is, therefore, not uncommon in this country to remelt it, and to strain it, by which it is much improved. In a sample sent me, designated “beautiful,” and with which I am told by my friend that “he cannot, of course, supply me in any very large quantity,” there are many stones and much dirt. He says that he has “frequently met with a good deal of iron and other substances.” Possibly this is an attempt at fraud, as the same thing has been practised with opium and the Cape aloes.

It is imported in cases and puncheons. The cases contain about 1 cwt. each ; the puncheons from 4 to 5 cwt. The market price is 60s. per cwt. in bond, subject to a duty of 2d. per lb. A very large quantity was imported from Bombay many years ago, and no one would purchase it, from its being then unknown to the drug trade ; and the probability is, that by far the greater proportion remains bonded in London, although much has lately found its way into the shops, and the article is rather pushed by many houses.

Its composition I find to be—

Soluble extractive .....	80
Resin .....	20
	<hr/>
	100

This is independent of impurities, which in the specimen I analyzed amounted to nearly three per cent. It will be observed that, as it respects the active principle, it is almost equal to that obtainable from the Barbadoes extract. The sample was an average one : I have met with some containing as much as 10 per cent. of impurities. From a good specimen of the Cape extract I procured but 60 per cent. of extractive matter ; the quantity of impurities, however, was much less in the Cape than in the Mocha extract. The difference in amount of the active principle in the vegetable is, perhaps, referrible to climate.

The action of the two extracts—the Bombay and the Cape—will be best shewn by contrast in the following tables. The opportunity afforded me was such as does not often occur in practice. Twelve doses of purgative medicine were administered in one day, and all the horses were under my eye. It would have been a disgrace had I not availed myself of it. The quantity given to each horse was six drachms. The horses were all previously prepared by mashes over-night, and an abstinence from hay, this being the

common practice of the College. Some had exercise on the following morning, and others not. This arose from the nature of the lameness or disease under which they were labouring.

The form of combination was that usually adopted here, no carminative being added; and it appears that none is required, for there was not, even when its action was the most powerful, the slightest appearance of pain, or of constitutional disturbance, beyond that always induced by a purgative.

CAPE ALOETIC EXTRACT.					
No.	Time required to cause action.	Exercised or not.	Evacuations.	Action.	Length of time kept up.
1	19 hours.	Exercised	Several	Free	The next morning the fæces were becoming consolidated
2	24 ditto	Ditto	3 or 4	Free	Ditto
3	24 ditto	No exercise	Ditto	Moderate	Ditto
4	27 ditto	Exercised	Ditto	Ditto	Ditto
5	27 ditto	Ditto	Ditto	Ditto	Ditto
6	Scarcely acted at all.	No exercise	—	—	—
BOMBAY ALOETIC EXTRACT.					
1	15 hours	No exercise	Many	Free	Purging continued throughout the next day
2	17 ditto	Exercised	3 or 4	Moderate	Fæcal matter the next morning still in a relaxed state
3	17 ditto	No exercise	5 or 6	Free	Ditto
4	18 ditto	Ditto	3 or 4	Moderate	Ditto
5	20 ditto	Ditto	5 or 6	Ditto	Ditto
6	27 ditto	Ditto	Relaxed only	—	Next morning fæces becoming consolidated.

It will be seen, by the above table, that the preponderance is decidedly in favour of the Bombay extract. The fæces were in all the cases more fluid than in those in which the Cape extract had been administered, and the action on the bowels appeared to be longer continued. No. 1 of the Cape, which operated both soonest and freest, was a small horse; while No. 1 of the Mocha, the action of which much exceeded that of the Cape, was a large horse, and, from labour-

ing under an incised wound in the hock, he could not be exercised. On the third day the physic had set in him. No. 6 in the same table, in which the fæcal matter was relaxed only, was an animal that refused mashes, and would drink very little water; the groom also reported that he was always with difficulty purged.

It must not be thought that these are the only instances in which I have tested this extract. It was frequently given, and with almost uniform success, both previous and subsequently to this opportunity presenting itself for drawing so fair an inference. Its value as a cathartic is therefore, I think, established. Whether or not it will be generally employed by the profession, I, of course, cannot take upon myself to say. I have endeavoured to perform my duty.

I would venture to suggest that, as many impurities are often mixed with it, the drug be broken into small pieces, and digested in water until the soluble parts are abstracted: the insoluble portions being then removed, the extractive may be obtained by the aid of the water-bath, and, during the process of evaporation, soap, or any other preferable agent, may be added, so as to form a mass of a fit consistence for exhibition.

I have thought that, as so little is known respecting the manner of procuring this extract, our Indian brethren could furnish us with some particulars. I remember Mr. Hughes, of Calcutta, informing me that he always purchased his aloes from the Arabian merchants, probably from those who brought it direct from Mocha in the original packages consisting of goat-skins. He afterwards melted and strained it. Mr. Jackson, of the Honourable East India Company's Service, tells me, that the extract used by him is sold in the bazaars in the Carnatic, and he thinks it is the produce of a plant growing in that part of Hindostan. It is very good, and very cheap. The usual dose given by him as a cathartic is half an ounce.

In many parts of India, aloes of a very inferior quality is sold, and of many kinds; and, probably, that which reaches the English market, known as the Bombay extract, is a mixture of all of them. These differences may arise from the juice being obtained from different kinds of aloes, from variations in the manner of preparing the extract, or from peculiarities in the mode of cultivating the plant. But, whichever may be the true cause, the necessity is clearly pointed out of our resorting to some means by which we may possess the active principle; for thus alone can we hope to obtain a compound of a uniform strength, and available for the purposes of the veterinary surgeon, to whom the failure in action of a "dose of physic" is of far more importance than to the practitioner of human medicine.

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ON STRINGHALT—CASTRATION—THE EFFECT OF TOBACCO  
—FOOD AND WATER—THE ARABIAN, COMPARED WITH  
OTHER HORSES — RABIES AND DISTEMPER — THE RE-  
SPECTABILITY OF THE VETERINARY PROFESSION—THE  
WORK ON HUMANITY.

*By* NIMROD.

STRINGHALT:—Here is another mystery—a subject of human research at least, which may be said to be common to all, and perfectly known to none. The post-mortem examination of the race-horse, Guilford, certainly traces it (at least, such was the opinion pronounced by Mr. Spooner) to a morbid affection of one particular nerve. Next comes the question, Is the evil to be cured or modified? The case of Guilford is the worst I ever heard of; but this I can say, on my own experience, that, in a hunter or a hack, stringhalt, to a moderate degree, is of very little consequence. I have been the owner of two hunters and one hack thus affected. One of the former (Jack Ketch) is well known, from having been mentioned in the celebrated Epwel run in Warwickshire, so well described in verse, by Sergeant Goulburn, in his fox-hunting days; and the other (Saladine, by Sultan) won for me several hunters' stakes, and was sold for a large sum in Leicestershire. But the history of the hack is the more remarkable. I purchased him in Ireland, where he had been ridden with hounds, and by a very severe rider, for two seasons; he afterwards became the property of the celebrated Colonel Wardle, who rode him hack for several years; and afterwards of a gentleman in North Wales, in whose service he died *at the age of thirty*, without having been known to be lame, or to have been once down on his knees. His stringhalt was very severe when I purchased him, but it did not increase in severity, notwithstanding all the hard work he had gone through, and the great weight he carried in the person of his last owner.

A word touching castration—not the *modus operandi*, as that concerns not me. From all I have seen of French horses, I am decidedly of opinion that we castrate too many of our horses of labour. When I look at the condition of the public road-horses that come daily into Calais with champagne, &c., and making allowance for the miserable accommodations they have on their journey—for the greater part of them come from afar—and the wretched provender they eat, I am convinced that nothing but their being entire enables them to perform their work, and keep up their condition withal. My attention was also for a long period drawn to an old Spanish stallion that worked in the Boulogne and Calais

Telegraph coach, with scarcely a leg to stand upon, or, to appearance, any muscular power left. "Will you never draft the old Spanish stallion?" was my frequent question to his owner. "There is no end to him, I believe," was the answer. His toughness was alone attributable to his being entire, for, in other respects, he was in a form quite opposite to that which denotes lasting properties.

Tobacco:—The anecdote told by Mr. J. W. Goodwin, and related in your February number of this year, reminds me of one, touching the effect of tobacco-smoke, told me by the late Mr. Chute, master of the Vine hounds. Finding his hunter tired at the end of a severe run, he rode to the house of a farmer, and asked him to lend him his hackney to take him home quickly, as he had a large party to dinner that evening. The farmer's wife was gone to Winchester with the hackney, and "What was to be done?" was the question asked by the popular old squire, who could have commanded any thing the farmer had to assist him. "Oh," said the farmer, "I'll soon put you to rights;" so, ordering a lighted pipe to be brought him, he applied the mouthpiece of it to the anus of the distressed and panting hunter, who, after about a dozen inspirations of the fumes proceeding from its contents, was so far refreshed by their stimulating quality, as to carry his owner home in due time for his dinner-party. I must believe this to be true, from the character of the relator of the anecdote.

I remember reading an interesting paper in your Journal on the transmission of some diseases from animals to the human species. I was lately told of a melancholy case in corroboration of this fact. A groom was riding a glandered horse, and, in tossing up his head in his walk, a small portion of the discharge from the animal's nostril alighted in the groom's eye. He died, glandered, not long afterwards. I also recollect the recommendation by a Scotch practitioner of the lancet, in preference to the fleam, for bleeding horses. It certainly has a more scientific and *respectable* appearance; and some horses' tempers are very much ruffled by a stroke of the blood-stick, and no wonder. In the hand of a man who knows how to use it,—and, if my memory serves me, the Scotchman says, "those who do not should go back to school and learn,"—I would certainly give it the preference over the fleam, although a horse I sold for 280 guineas was killed, in Leicestershire, by being bled with a lancet which had not a shoulder to it, and, we may suppose, in an unskilful hand. He did not survive the puncture more than eight minutes. It is a matter for congratulation, however, that the use of either lancet or fleam is now very greatly restricted from that of former years, and the precious stream is not wasted by buckets full as it was wont to be, and without any existing cause.



It is an opinion, at least as old as Pliny\*, that the blood is a living fluid; but it was reserved for our countryman, John Hunter, the celebrated physiologist of his day, to place this opinion among the number of those truths that can no longer be disputed. How the life of this fluid begins, and in what the living principle itself consists, are matters concerning which we shall, probably, for ever remain ignorant; but it has been established beyond all controversy, that the life of the blood immediately depends upon the action of the atmospheric air to which it is exposed in its passage through the lungs. In proof of its vitality, it is said that the venom of the viper is perfectly innocent when applied to the nerves only; but acts immediately upon the blood, and through the medium of this fluid destroy the irritability of the muscular fibres, and produces death.

*Food and Water.*—I have been interested in the discussions which have lately taken place in your columns and elsewhere on the subject of food and water, the latter more especially. An extract from the Old Sporting Magazine has been going the round of the papers, in which the writer says that “it is by no means an uncommon notion, that, if horses are to be got into condition for work, they should be allowed to drink but a very small quantity of water.” I may here observe, that it is no uncommon occurrence to have one fool as the owner of horses and another as their groom; but, who that knows any thing of the matter agrees to this stint? Condition implies health, and health in horses is not to be attained under such a restriction. As for making it a practice to leave plenty of water at all times within reach of *every* horse, as the writer alluded to recommends on the result of his own experience, I at once condemn it as dangerous; and it induces me to believe that the said writer is one of the numerous class of imaginary owners of studs, many of whom have come under my observation†. To say nothing of the effect of *ad libitum* drinking of cold water, after or before work, I have had several good hunters which would have been very bad ones, had they been watered after four o’clock on the day before hunting. As for the twaddle here introduced of a horse “making up his mind to slake his thirst with a small quantity of water,” it is, under any circumstances, only worthy of ridicule, and the sapient allusion to “the connexion between the stomach and the brain” is equally absurd here. We have in this instance, however, an example of the mischief that may be caused

\* *Magna et in eo vitalitatis portio. Emissus spiritum secum trahit, tamen tactum non sentit.*—*Plin. Secund. Nat. Hist.*, LXII, cap. 38.

† Three years ago, one of this class, when in Calais, sent to request I would send him the Stud-book to make out the pedigrees of his large stud about to be sold at Tattersall’s. He was neither the owner of a horse, nor of five pounds, at the time!

by editors of newspapers extracting passages from writers on subjects so important as that of the health and life of very valuable animals, without ascertaining on what authority the advice contained therein is offered. A few swallows of water were given to the gig-horse of a friend of mine immediately on being taken out of his harness, which produced *instant death* and the loss of seventy guineas. He was the property of the late George Kenyon, Esq., first cousin to the Honourable Thomas Kenyon, of well known coaching fame. I am aware that some countenance is given to the *ad libitum* system of watering horses by some of your profession; but may I be pardoned in saying, that however plausible the theory, the practice must have told against it, forasmuch as, notwithstanding it has for so many years been advocated, it is nevertheless neglected. I do not think it exists in a dozen hunting studs in Great Britain, and we know it is out of the question in training stables. Horses on the continent are sadly over-dosed with water; and what is the result? Their bellies are greatly distended; their flesh is loose and flabby; and before they have travelled three miles, they have thrown away that which ought to remain to their nourishment and support. Our knowledge of natural philosophy consists in and is derived from observation; here there is no uncertainty or conjecture; all is positive truth.

Touching food, I agree with Mr. Ernes on the subject of bran mashes. I always ordered them to be made two or three hours before being used, with care as to the water being in a boiling state; but what an inexhaustible subject would the food of horses afford, if we were to go back to very early days! Setting aside the fable of those of Diomedes being fed with human flesh, and of their royal owner himself being at last devoured by the stud of Hercules, as well as Shakespeare's conceit that they eat each other, I was not far from the mark, when I said they might be brought to eat any thing, from a beef steak to turtle soup. At all events, we have it on undeniable authority (Mosheim's Ecclesiastical History) that one Theophylact, Patriarch of Alexandria, in the tenth century, fed his hunting horses—of which he had a stud which would make that of the best of the Meltonians of the present day look very small—on pig-nuts, pistachios, dates, dried grapes, and figs steeped in the most exquisite wines, to all of which he added the richest perfumes! It is my opinion, however, that it is only within the last fifty years, or less, that a right system of feeding horses has been practised; that it is practised by none but Englishmen, or by persons under their instruction; and that it is best understood and practised by experienced trainers of race-horses.

The mention of by-gone times, in reference to horses and their management, leads me to the notice so frequently taken of the

virtues and beautiful proportions of the Arab horse. Why, sir, they fall into the shade by the side of those of our own breed. Take form—which is adaptation of certain parts to purposes required—action, temper, power, and speed, as well as general usefulness—they are all in favour of the English horse. You will have seen in the “*Journal des Haras*,” of October last, the challenge accepted by my friend, Baron Biel, the Sir Charles Bunbury of Mecklenburgh, to decide this point with Prince Puckler-Muskau. High odds against the Prince coming to the post, and still higher on the Baron, if he does! I can honestly say, that although I once gave £500 for one, for another person, I would not give £50 for the best Arab I ever saw, for my own riding. But we must look into the Racing Calendar for the triumph of English blood, where we shall find 18 lbs. given by horses *of the year* to half-bred Arabs, and 36 lbs. to those of pure Arab blood. Of course, I allude to Goodwood. On the well known principle, that half the goodness of horses goes in at their mouths, our superior method of rearing and keeping has much to do with our superiority on the turf and in the field.

I am sorry to find that the use of the stethoscope to mares, for the purpose of ascertaining pregnancy, is likely to be abandoned, from the danger of it; still, the same objection does not apply to the benefit of auscultation to horses. In my letters on the condition of hunters, I state an instance of my getting rid of what proved to be a good horse for a trifle on the evening of a fine day's sport, supposing, from what was considered the violent beating of his heart, that he must die. It proved to be the action of the abdominal muscles that caused the dreaded noise, and which fact could have been ascertained by the stethoscope, if not by the application of the unassisted ear.

A friend of mine, who takes much pains with his hunters in the summer, and is well rewarded for it, uses tan, instead of straw, for bedding, in their loose boxes. He finds it better for the feet than straw. Not having tried it, I cannot offer an opinion on its merits.

*Hydrophobia*.—The eyes of the public are upon yourself and your profession, watching for a remedy for, if not a release from, one of the greatest terrors by which human nature is not only afflicted, but haunted; and sportsmen have not given up the *hope*, that a successful treatment of *distemper*, if not an absolute prevention of it, may be found. As regards distemper, I am greatly disposed to believe that, if it were possible to diet a young dog so far as to prevent his picking up rubbish, and such-like indigestible matter, he would not be in much danger of being attacked by distemper; and if occasionally physicked when well, he would generally get through it when attacked. It is a curious fact that, on several fox-

hounds of the late Lord Middleton dying without an apparent cause, their stomachs were found to contain the fur of foxes in an unaltered state, and to this cause was their death attributed. This occurred when his lordship hunted Warwickshire. Every dog should be purged occasionally, to ensure his good health, puppies especially. As these diseases have hitherto lain without the reach of precept, every little accidental circumstance that has the slightest association with what may be considered likely to be the causes of them should be attended to, and weighed. Sebright, huntsman to Lord Fitzwilliam, told me, last winter, that his chief dependence for guarding against loss of life by distemper was physicking his young hounds with salts, when they come first into kennel, and at their walks.

*Respectability of the Veterinary Profession.*—I need not say that I am anxious for all that tends to the welfare and respectability of the veterinary profession, and hope to live to see a son of mine a member of it. “Virtue,” says Cicero, “is estimated by its utility;” and how can a man be more usefully or honourably employed than in diminishing suffering, either animal or human? In reference to this point, I have been much gratified by the perusal of the remarks of Messrs. Spooner, Mayer, and yourself, on the means to be used towards insuring and *increasing* the respectability of the veterinary profession. “Hold up your heads,” I say, and “go on.” I can see no reason why a regularly educated veterinary surgeon, properly conducting himself, should not rank with members of any other profession by which the means of procuring money are made available to them.

I have perused your Essay on Humanity to Brutes with much pleasure, as likewise the able and just review of it in the number of THE VETERINARIAN for June last. That you have well and powerfully advocated the claims of the brute creation to the consideration and kindness of man, cannot, on any account, be denied. The Essay of Dr. Styles I have not had an opportunity of reading: I am, however, able to make one or two observations from the perusal of the review of your own.

Does any one dispute the existence of “moral qualities” in brutes, insisted upon by yourself? Who is it that sneers at the idea that the habits and instincts of brutes should be designated as “moral qualities,” and described as “filial affections” and “conjugal attachment?” Is the history of the turtle-dove a fable? What were the feelings of a cow of my own that bewailed the loss of her calf *for upwards of three months*, and to such an extent that it was necessary to shut her up at night, although in the middle of summer? for no one about the house could sleep for her. What but a “moral quality,” and one of the highest rank, prevented the half-starved dog you allude to from helping himself to

the contents of the barrow of tempting meat to which he was attached, while his master's back was turned? Would a half-starved man have done as much?

There is an oriental tale written to shew how far a man, supposed to have subsisted in a desert island, without any instruction, or so much as the sight of any other man, may, by the pure light of nature, attain the knowledge of philosophy and virtue. One of the first things the author makes him observe is that universal benevolence of nature, so conspicuous in the production and preservation of its creatures. In imitation of this, the first act of virtue which he thinks his self-taught philosopher would practise, would be to relieve and assist all the animals about him in their several wants and distresses. I need not remind you of the splendid passage of Ovid—

(“ Quid meruistis, oves, placidum pecus,” &c.)

applicable to this subject; and hundreds, by various writers, equally applicable, might be produced. As regards your own remarks on this subject, in your Essay, I see nothing in them having a tendency to what John Laurence not inaptly termed “ *impracticable philo-brutism*,” which must ever counteract its own ends, and even its good intentions; but, on the contrary, a manly feeling of compassion for *unnecessary* suffering—for in this world of labour and necessity, as well as of indolence and satiety, suffering, to a certain extent, there must and ever will be.

I am pleased that I can add another testimony to the accuracy of your account of the cruel death of several of our turf-horses. Ambo was a racer of the highest character, and in some hands would have realized a fortune for the possessor of him. Having formerly some acquaintance with one of his owners—F. R. Price, Esq. of Bryn-y-pys, near Wrexham, owner of Captain Pops, and other race-horses,—I wrote a letter to him on the subject. I was honoured by the following answer:—

“ Dear Sir,—In reply to your letter, I beg to state that I sold Ambo to Mr. Shaw, of Delamere Forest, in the year 1813, after which he twice won the Mostyn Stakes, at Holywell, and many other races. He afterwards was used as a stallion, and went blind. I fear the account of his untimely end is too true. I heard of the deplorable condition he was in, and sent a person to purchase him, in order that I might turn him out for life; but he was, unfortunately, dead before I sent.

“ Your's, very truly,

“ F. R. PRICE.

“ Bryn-y-pys,  
“ Dec. 21, 1839.”

## RETENTION OF URINE IN WETHER SHEEP FROM A DEPOSITION OF EARTHY MATTER IN THE APPENDIX VERMIFORMIS URETHRALIS.

*By Mr. ROBERT READ, V.S., Crediton.*

THIS complaint in wether sheep is not mentioned in the valuable Work on Sheep, nor, to the best of my knowledge, is it alluded to by any other author: my object, therefore, in bringing it into notice through the medium of THE VETERINARIAN, is the advancement of our science in the medical treatment of this and every domesticated animal which comes under the veterinary surgeon's care. I am well pleased to find that some necessary arrangements are making at our fountain-head—the Veterinary College—for the instruction of this much neglected branch of the student's education. May it be done *in right good earnest*!

This disorder happens to wether sheep most commonly on being turned into clover buds for the second clover crop. A country practitioner may meet with two or three cases of it in the course of a year. The symptoms are, a lagging behind the rest—a great disinclination to move—being easily caught—fever—the ears drooping—the eyes dull—short panting respiration—often wriggling of the tail, and standing in a position to make water. After some time has elapsed the flanks are distended, and pain is evinced on pressure being made on the sides.

Having clearly made out the case, the sheep should be cast on his rump, and his head bent forward so as to describe an arch. This is to be done by the assistant. Then with the finger and thumb the prepuce should be pressed down, and the glans penis with its appendages will slip out. The operator will then find the *appendix vermiformis urethralis*: I know of no other name for it, except that it is commonly called by farmers "*the wire-worm*."

It sometimes is filled, and, at other times, only in part so, with a white earthy matter, of a saponaceous feeling when rubbed between the finger and thumb, and of a slightly ammoniacal smell. No doubt this is an ammoniaco-magnesian phosphate produced from an alkaline quality in the ingesta or alimentary matter.

As the second clover crop is so apt to produce it, does it contain an excess of alkali? We know that if we take an excess of soda or potass there is, on our voiding the last drops of urine, a similar deposition on its being caught on bibulous paper. This accumulation in sheep is, no doubt, aided by the mucus which lines the urinary passages, and, the contents of the bladder not being forcibly voided, a deposition takes place.



The treatment is simple. Take a pair of scissors and cut off the worm-like appendage above the obstruction, and the urine will instantly flow, and continue flowing for a considerable time. In some cases I have taken or rather caught from five to six quarts. No bad consequences ensue from the excision, but the sheep quickly recovers its wonted vigour. This short paper may not be interesting to those who have been long in practice, but to him who is about to commence a country career I hope it may be of some good.

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[In page 41 of the January Number of THE VETERINARIAN, in the paper of this gentleman on foot-rot, *for* "the solution of the bichloride or hydrochloric acid," *read* "a solution of bichloride of mercury in hydrochloric acid."—Y.]

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## A CASE OF DISCHARGE FROM THE NOSE OF A HORSE, SIMULATING GLANDERS.

*By Mr. JOSEPH SEWELL, V.S., London.*

A VALUABLE chestnut hunter was sent for my opinion last February, by John Bevan, Esq., from the neighbourhood of Bedford. It was supposed to be glandered, having a considerable discharge from his off nostril, and the submaxillary gland being much enlarged. He had been in this state about six weeks.

On inspecting my patient, I found that he had received a considerable contusion on the off-side frontal bone, which led me to conclude the bone had been fractured, and that a small portion of the inner table was probably depressed, causing the discharge from the nostril by the process of exfoliation. I proposed cutting out a piece of bone over the injured part by the trephine, which was acceded to.

Having cast my patient, I proceeded to operate with an instrument one inch in diameter. After making an angular incision, and turning up a flap of integument, I pierced through the bone with the trephine, and two pieces of bone came out, shewing the exact line of fracture. A small splinter was then found hanging to the lining membrane of the frontal cavity.

I closed the skin over the orifice until suppuration commenced, when the discharge somewhat increased; but by keeping the cavity washed and syringed with a weak solution of zinc, and, sometimes, tepid alum-water, the parts gradually healed, and the discharge diminished. In about five weeks my patient was perfectly recovered, and very little blemished.

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## A SUPPOSED CASE OF HYDROCEPHALUS IN A COLT.

*By Mr. C. SNEWING, Rugby.*

*January 28, 1839.*—A YEARLING (off) colt has, for the last three or four days, been noticed by its owner to be rather dull and moping, and less anxious after his fodder. Being made to move suddenly and rapidly, he stumbled, dropped on his knees, recovered himself, moved on a few paces, stopped, gazed stedfastly upon the ground, and then fell into a quiet doze.

I at once recognized the similitude of symptoms between the present case and those produced by the *hydatid* on the brain of the sheep. I had in both the same kind of vertigo, the stumbling, vacillating gait, and the same kind of coma succeeding it, without the delirium of fever.

But, to return, viewing this disease as one of effusion or abnormal growth within the cranial parietes, and marking the slight increase of pulse, somewhat disturbed respiration, great torpor of the bowels, and *high condition* (as regards flesh), I opened the right jugular vein, and abstracted eighteen or twenty pounds of blood. In fact, I suffered the stream to flow until I had produced symptoms of approaching syncope. I then gave a strong aloetic purge in combination with one drachm of calomel, inserted a seton over one side the poll, and applied a strong blister over the other.

*29th.*—No alteration nor action from the bowels; appetite impaired. I abstracted 8 lbs. more of blood, and ordered that enemata should be had recourse to, and the following medicine to be given daily, in the form of a ball:— $\frac{1}{2}$  drachm of pulverized digitalis,  $\frac{1}{2}$  drachm of calomel, 10 grains of the hydriodate of potassa, and two drachms of the nitrate of potassa.—My patient was nine miles from me, and I should not be able to see it every day.

*Feb. 2d.*—No amendment, nor has there been any marked action of the bowels from physic.

Give immediately aloes Barb.  $\mathfrak{z}$ i, zingib.  $\mathfrak{z}$ i, sapo q. s; and continue the other medicine.

*6th.*—No alteration nor purging action of the bowels. Give  $\mathfrak{z}$ iss of Barb. aloes, in solution; continue the other medicine, and apply an extensive blister over each side of the neck, along the course of the cervical vertebræ. Have recourse again to frequent enemata.

*10th.*—Bowels still remain unacted upon—the animal more listless and unconscious, and staggers more in walking. Give aloes Barb.  $\mathfrak{z}$ iss, ol. croton grs. xv, ol. lini octi. blended together, and continue the exhibition of the other medicine.

11th.—There still remains torpor of the bowels. Give eight ounces of Epsom salts in solution.

12th.—The bowels at last are responding to the action of the medicine—patient more under the influence of vertigo.

13th.—Died. And, vexing to relate, contrary to my wish, expressed all along, no information reached me of it until too late to unravel what still remained, by an examination after death, of its cause; but it was nine miles from home, and, therefore, rather excusable in the owner.

There is a very palpable error in the last case now on record—in which the word bowels is substituted for rowels, making the language ridiculous, but which I trust will, by every discerning eye, be seen to be only verbal.

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## MELANOSIS.

*By Mr. W. C. SPOONER, V.S., Southampton.*

IN THE VETERINARIAN for January last, there appears a paper of mine, relating a somewhat remarkable case of melanosis in an Arabian horse, together with a drawing describing the appearance of the parts after the animal was destroyed. I regret that the paper was so short, but I endeavoured to procure some account of the disease in the human subject, though I did not succeed in my wishes. I am not aware that any English veterinary writer mentions the disease; nor is there any case of the kind related in THE VETERINARIAN prior to mine. A few days since I met with the Medical Gazette for January 24th last, which contains a lecture, a great part of which is devoted to the subject of melanosis. The lecture is by B. Phillips, Esq., F.R.S., and was delivered at the Westminster Hospital School. If I had met with it before, it would have enabled me to have made my paper more useful and interesting.

The lecturer defines it, after Laennec, “as a pathological production deposited upon the surface or in the substance of our organs, of a darkish or blackish colour, having no analogy with the healthy tissues of the body.” “The disease, which was described by Brugnoni, in 1781, which was hereditarily transmitted among the white horses of Chevasso, and which he termed hemorrhoids, was evidently melanosis; it was usually developed around the root of the tail and the anus.

Some years later, in 1784, the same disease was observed at Bresse. Gollety-Latournelle transmitted an account of it in 1809: he says “there supervened in a young stallion, on the second year

of his covering, black '*boutons*' or buds around the anus. They soon extended to the scrotum and sheath. They were placed between the skin and muscles, at first as large as a small nut, and they increased until they attained the size of a pullet's egg; they did not suppurate, and were insensible to the touch. In a short time all the cellular tissue was similarly affected, and the animal died. When cut into, a matter like the grease of a cart-wheel flowed out. All the progeny of this stallion which had the same colour was similarly affected; those which were black, bay, roan, or iron-grey, escaped."

"In 1806, Laennec communicated to the faculty the result of his observations on the same subject, and which has been further elucidated by other writers since; but much still remains to be done for it. The tumour may either be a black opaque homogeneous mass, or may contain a darkish-coloured fluid. Gohier saw a tumour of the kind in a horse weighing thirty-six pounds."

The lecturer next enters into the opinions of various writers as to the composition of the melanotic substance, most of them agreeing that its black colour is owing to the presence of a large quantity of carbon. "Many persons are of opinion that the black principle is an aberration of the pigment destined by nature to be deposited elsewhere, as the rete mucosum, the choroid, the hair. It is said that persons with light hair, and elderly persons whose hair is white, as well as light grey or white horses, are most commonly the subject of this disease." This opinion is certainly supported by the case related by me, the horse being a white Arabian. He had one tumour only externally perceptible, which was about the size of a walnut, and had existed for some years; but he had an immense number deeper seated in various parts of the body. It will be an interesting subject for future observation to ascertain whether and to what extent his progeny are affected; because, if they really become affected to any extent, it will offer a strong objection to the use of these white horses as stallions. The lecturer has but little to say on the treatment of the disease, and that little not very satisfactory. It appears to me that, amongst our remedial agents, the use of iodine demands some attention.

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## ON PUERPERAL FEVER, OR PARALYSIS AFTER PARTURITION IN CATTLE.

*By JOHN TOMBS, ESQ., of Pershore, late of the Bengal Artillery.*

I HAVE had a tedious but not unfrequent case of chronic puerperal fever in a cow, which was taken ill three weeks ago, a month after she calved. The second day of her sickness she fell down,

and has not yet been enabled to rise; in fact, she never attempts to get up: she lies continually on her left side. She was turned once, but that gave her great uneasiness. At the onset of the disease her pulse was high; she was costive, and turned her head to her flank and moaned; she also ceased to feed. These unfavourable symptoms were removed by three bloodlettings, and freely evacuating the bowels by ol. ricini and sulph. magnesia. After this treatment she has had stimulants, viz. gentian, ginger, and coriander seeds; her back has been stimulated, and now she has a charge on from her hip bones to the shoulders. Her bowels are becoming too much relaxed, from eating turnip-tops. To correct this, I am giving opium, creta preparata, catechu, and columba; and when I have established a natural action of the organs of digestion, can you recommend any mode of treatment that you think would be beneficial? if so, please communicate the same to me when convenient, and I will forward the result of such treatment to you. I am often called to attend similar cases, which are extremely harassing to the proprietor and vexatious to the practitioner; and if an expeditious mode of treatment could be discovered, it would be a great boon to the profession of which I am a member. This cow eats, drinks, and chews her cud very well, and has a nice dew on her nose.

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I confess that I have little to add to the lengthened account of this disease, which I ventured to give in the work on "Cattle," and which after-experience induced me somewhat to modify, as stated in the first volume of the "Proceedings of the Veterinary Medical Association," except to refer to the invaluable Essay on Puerperal Fever in Cattle, by Mr. Friend, in the 9th volume of THE VETERINARIAN, p. 140, and to the whole discussion on this subject in the volume of the Association already referred to. It is a subject well worthy of the deepest investigation, for it was too long one of the *opprobria* of the veterinary art.

This disease does not appear to be of so frequent occurrence among the French as the English cattle, and the etiology of it is far from being determined. The majority of French writers consider it to be connected with metritis. Such, in 1826, was the opinion of Professor Gellé, and we are eagerly expecting that portion of his invaluable work on cattle, in which, after an experience of fourteen additional years, he will have once more to give his opinion of the nature and seat of this complaint. Hurtrel D'Arboval, in the last edition of his Dictionary, under the article of "Paralysis" among cattle, and its connexion with some morbid affection of the spinal cord, asks: "Is it not to the same cause that we must refer the state of many cows, who, after calving, although no peculiar difficulty or violent efforts accompanied the

act of parturition, yet soon experience so much weakness of the loins, that they remain down, and unable to rise, for many days, yet eating and drinking as heartily as in a state of health? We also find many ewes, who for awhile lose altogether the use of their hind limbs, and yet afford sufficient nourishment to their lambs."

M. Dupuy, always foremost in the pursuit of science, gives, in 1826, the following account of a cow paralytic after calving. "The parturition was natural, but in the course of the following night she dropped, and, in her violent and incessant struggles to rise, there was protrusion of the vagina and uterus, which were, however, readily returned. The hind limbs continued to be frequently convulsively agitated, yet, when they were pricked with a pin, it was evident that all sensibility was suspended. She was destroyed on the fourth day.

"The right lung was of the colour of wax. The rumen was distended with food of a soft, clammy consistence, and exhaling a foetid odour. The contents of the reticulum were compressed and dry, formed into several masses, and adhering to the lining membrane of the stomach. The manyplus was distended with food so hard and dry, that it could scarcely be cut with a knife. The membrane of the abomasum was inflamed through its whole extent, and this inflammation extended a little way into the duodenum; it appeared again in the rectum. The liver was sound, but the gall-bladder was distended to a most extraordinary degree. The uterus was slightly red, but its cotyledons were in a state of decomposition.

"The meninges of the brain presented nothing extraordinary. The spinal marrow was of its *ordinary consistence* throughout its whole extent, but at the lumbar region *the superior portion of the cord was reddened*, and there were minute red spots here and there in its pulpy substance. *The injection, which was of a deep red colour, occupied, for the space of two inches, the grey substance of the superior fasciæ of the medullary column.* The inferior fasciæ exhibited a yellow tint, which, with this exception, extended through the whole of the spinal cord."

*Journal Pratique*, 1826, p. 529.  
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## AN EXTRA-UTERINE FŒTUS.

*By Mr. R. METHERELL, V.S., Spalding.*

A FEW days ago, Mr. Isaac Sharman, while killing his mutton for the market, found in the cavity of the abdomen of a ewe sheep a peculiar mass of organized matter, singular in colour and gene-



ral appearance. After its careful removal, he kindly presented it to me for investigation. I at first made full inquiry as to its relative situation: having done so, I found that it was situated in the left lumbar region, being attached to the investing membrane of the abdominal cavity (the peritoneum) posterior to the left kidney. I then minutely investigated its general structural development, which proved it to be an extra-uterine fœtus, originating from imperfect sexual intercourse. Certain organs connected with the uterus not performing the functions which Nature allotted them, the ovum, instead of being clasped by the corpora fimbriata, and passing through a lengthened serpentine tube (the Fallopian), escaped into the cavity of the abdomen, where Nature gave it an envelope, and the result was a singular mass of organization. I presented the specimen to a medical gentleman of Spalding, in order to have his opinion concerning it, and he fully coincided with me as to its being an unnatural embryo.

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## CONSULTATIONS.

## No. XI.

## RUPTURE OF THE DIAPHRAGM.

6th June, 1838.

Dear Sir,—I SHOULD feel exceedingly obliged to you for your advice on the subjoined case, of which the following papers contain the particulars.

And am, Sir, respectfully and faithfully yours.

To Professor Dick, Edinburgh.

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Dear Sir,—You will oblige me by coming without delay to this place, in order to ascertain the cause of the death of a mare of Mr. Thomson's, which I had the use of for hire yesterday, and which I returned to him this morning from Killemain Kildonnan, by the bearer. The animal became ill on its arrival, and has since died; and, being desirous to ascertain whether she has come by her death from over-riding by the person to whom I gave her in charge this morning, I request you will come hither as soon as possible, to have a post-mortem examination of her.

I am, dear Sir, yours truly, &c.

To ——— V.S.

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*May 31.*—I examined the mare, and sent to my employer the following certificate:—

“This is to certify, that I did, at the request of Mr. ———, examine the carcass of a mare belonging to Mr. John Thomson, innkeeper,

and, from the appearances on dissection, give it as my opinion, that the immediate cause of death was a rupture of the diaphragm, from the ensiform cartilage to about its middle, and which must have recently taken place, for such an injury very speedily proves fatal: although I likewise believe that, from the high state of inflammation in which the bowels were, and particularly the jejunum and the ileum, the animal could not, otherwise, have survived long. The lungs were also inflamed, and the left lobules highly so.

“The causes of rupture in the diaphragm are very obscure; but this lesion is usually the consequence of over-exertion, although it might in the above case have been the result of excessive distention of some of the abdominal viscera. The stomach was distended almost to bursting, and contained more than thirty bots. Among the causes of inflammation of the intestines are sudden exposure to cold, or plunging into a river when heated in hunting, or violent exercise, or the drinking of cold water when very warm. Spasmodic colic neglected or improperly treated is not an unfrequent cause: also, horses long confined to dry food will sometimes have spasmodic colic on suddenly gorging themselves with green meat.

“To ———, Esq., Surgeon.”

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Two days afterwards I received the following reply.

2d June, 1838.

Dear Sir,—I received your report this morning, stating the immediate cause of the death of Mr. Thomson's mare, as also an account of the inflamed state of some of the digestive organs, together with a statement of the causes or circumstances which might produce rupture of the diaphragm.

I feel particularly anxious to ascertain the cause from which the animal's illness originated, if that can possibly be decided upon; and, in order to assist you in coming to a proper conclusion in the matter, I submit to your consideration the treatment of the mare for some time previous to her illness, which I have hitherto purposely refrained giving.

She was ridden fairly, but neither too far or too fast; on the Wednesday and Thursday preceding her illness. On Friday, after being ridden a short journey, she was yoked to the plough by the owner, and there she worked the rest of that day, and the whole of the following day, and, being naturally willing, generally kept a-head of the other horse. On the evening of Saturday she was turned into a meadow where the grass was rich and luxuriant. During the whole of the Sabbath-day she was on the grass, with the exception of a short interval. After five o'clock on Sunday evening I rode her slowly, at the rate of from four to five miles an hour, and she

was well laid up for the night at the house at which I stopped, with plenty of hay before her. The provender she had at night she finished before four o'clock in the morning, when she got a fresh supply, and an hour in which to eat it. She was afterwards ridden a distance of about eleven miles, by a young man from that place, who took from an hour-and-a-half to two hours to accomplish the journey. Soon after her arrival at this last place she was taken ill, and was immediately turned into a field close by. This was about seven or eight o'clock in the morning, and she remained there, wandering about and occasionally throwing herself violently on the ground and rolling. About eleven o'clock A.M., she was bled to the extent of three quarts, and some castor oil given her.

I may observe, that the distance she was ridden on Wednesday was 32 miles; on Thursday 23 miles; that on Friday, A.M., 11 miles; during which time she was well attended to as to feeding; never ridden by me at a rate exceeding six miles an hour; and, so far as I can learn, she was not over-ridden by the bearer of this letter on the Monday morning, as the lad's father, who left home at the same time with a horse and a cart, declares that he kept sight of his son all the way. On the Sabbath evening, and on Monday morning, the mare had to pass through a river on her journey, the water of which reached to her knees. At these times, however, she was perfectly cool.

I shall be expecting, at your earliest convenience, to receive your remarks on the above statements. You will also please to say whether you think you could have been of service to the animal, if you had been called to see her in due time.

Although it does not become me to offer an opinion of the causes of disease in the lower animals, still I may remark, that in this case I should be inclined to think that the green grass, acting with the dry food, excited spasmodic colic, which being improperly, or rather scarcely treated at all, brought on the inflammatory action of which the animal died.

I am, Sir, your obedient servant.

P.S. As I have not seen a case like this, and also am not acquainted with what the law says on it, you will, perhaps, be kind enough to say whether it is your opinion that I contributed at all to the production of the disease, and should make Thomson a remuneration in full, or in part, for the loss of his mare, or whether he is bound to sustain the whole loss.

To ——— V.S.

You now, Sir, have the whole case before you. What opinion and advice should I give?

## MR. DICK'S REPLY.

My dear Sir,—I am inclined to ascribe the rupture of the diaphragm to the distention of the stomach and intestines with gas, and that it had taken place after death. This is quite a common occurrence, when a considerable period is allowed to elapse between the time of death and the *sectio cadaveris*, which must have happened in the case in question, and is readily explained from the circumstance of the muscles losing their strength, and becoming easily torn after death.

I have no doubt that the cause of death was inflammation of the bowels, brought on either by cold produced by plunging through the river, or, far more probably, by the sudden change to green food, and the mare being allowed to eat too freely of it. She probably might have been saved by proper and prompt treatment. I do not think the hirer can be fairly called upon to indemnify the owner of the mare.

W. DICK.

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No. XII.

## SUPER-PURGATION AND INFLAMED LUNGS.

Ayrshire, 28th August, 1839.

Sir,—THE loss of a horse from a seemingly trifling cause induces me to trouble you upon the present occasion. This day week my servant informed me that, upon his going into the stable in the morning, he found one of my best cart-horses, about eight years old, and in good condition, very lame, and a scratch covered with coagulated blood upon his near hind leg, a little above the pastern joint. I sent for our smith, who bled him, and rubbed the part with a solution of sugar of lead, and ordered him to be fed upon bran mash and a little hay. The leg swelled and seemed very painful, for the animal was restless, and unable to bear the slightest pressure upon the part.

He continued in this state four or five days, when, a friend accidentally calling, I told him of the misfortune which my horse had met with. He went to the stable with me, and, after examining the leg, found that at the extremity of the scratch there was a small puncture, as if made by a nail, and nearly an inch and a half deep behind the bone of the leg. He advised me to foment it well with hot water, to apply bran poultices, and give the horse a dose of physic on the next morning, all of which I did; and in two days the swelling was reduced, the leg seemed free from pain, and the

horse was more comfortable. The physic did not begin to operate until the third morning, when, as his leg appeared better, I ordered him to be walked out twice, for half an hour each time, after which the physic seemed to be doing as well as could be wished; but the patient appeared sick, and took no food, only drinking occasionally a little warm water. I gave him half a pailful of gruel in the evening, and left him in that state, his pulse weak, and about 54. It never exceeded 60; but he was breathing rather heavily. To my astonishment my servant told me this morning that he was dead.

I had him opened. My untutored eye could detect nothing wrong or unnatural, except that the blood was excessively black, and the heart a little swollen, and filled with black congealed blood.

Can you, from this imperfect account of the case, form any opinion as to the cause of his death? Was there any thing wrong in the treatment? As I am anxious to know your opinion, I should feel obliged by your writing to me at your earliest convenience. A friend of mine will call on you, and present you with the accustomed honorarium, and many thanks.

I have the honour to be, &c.

P.S.—The surgeon from whom I got the physic, told me that it was composed of six drachms of aloes, and about twenty drops of croton oil with soap. The wound, which appeared to have been caused by a nail, was in a healthy healing state. Was the black colour of his blood at all connected with the fatal termination of the case? He was in the highest condition at the time that the accident happened.

#### ANSWER.

From the strength of the dose, and the history of the case, I am of opinion that the horse must have died from superpurgation. The croton oil contained in the physic would produce its prostrating, if not poisonous, effects more readily from the circumstance of the pain in the leg having, in all probability, produced a considerable degree of constitutional irritation, and probably actual inflammation of the lungs. The heaviness of breathing evidently indicated an affection of the lungs; and I have no doubt that, if they had been cut into, they would have been found in a diseased state, probably indicating an approach to the tuberculous state, which in some instances comes on with great rapidity, under such circumstances.

W. DICK.

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## No. XIII.

## TUMOUR OF LONG STANDING.

20th Oct. 1839.

Dear Sir,—I SHOULD take it extremely kind if, at your earliest convenience, you would give me your advice on the following case :—

The subject is a strong carriage horse, about seven years old, and the complaint is a broad, flattish, hard tumour, situated on the margin of the chest, in a line with and about four inches from (behind) the top of the olecranon. I saw it first about three months ago : it was then nearly two inches in diameter, flat, and not very prominent ; quite hard and immoveable ; deep seated, and unconnected with the skin. Generally speaking, it was not painful, even when hardly pressed, except when exposed for a length of time to the pressure or friction of the harness band, and then it was often tender for a day or two.

I applied strong iodine ointment, rubbed in daily for about a fortnight, without producing any apparent good effect. Nothing more was done until about a fortnight ago, when the tumour appeared to be enlarging and becoming habitually painful. It was still uniformly hard. I have inserted a rowel, and blistered the part, but no good is appearing to be derived from the treatment. The pulse is feeble ; and although the horse is kept on highly nutritive food—boiled barley, carrots, and moistened hay—and in a commodious loose box, he is quite out of spirits, and is rapidly losing condition. Kindly favour me with your opinion and instructions.

I am, &c.

P.S.—I cannot learn the cause of the tumour ; but I can trace it back two or three years.

## REPLY.

Sir,—Without seeing the tumour, and ascertaining its precise situation and character, it is difficult to advise you as to the course which you should pursue.

The tumour seems to be connected with the sternum or the cartilages of the ribs ; and from the symptoms which you describe, I fear that the disease has extended to the pleura, and is producing adhesion or effusion into the chest, or, from its situation, very probably affecting the pericardium, and producing effusion into it. In either case there is great danger. The treatment must consist of repeated blisters, which may produce suppuration, in which case a puncture must be made, and the matter be evacuated.

To prevent effusion in the chest, and to support the strength of the animal, tonics combined with diuretics should be given, sul-



phate of iron ℥ss, camphor ʒj, with diuretic mass ℥ss given daily, will, perhaps, be as good a medicine as can be administered. If the pulse is quick, digitalis with antimony and nitre may be given. A seton passed through the tumour would have been better than the rowel. Perhaps a few poultices would be of service; but I should have greater confidence in the blister. The disease is not uncommon, but is always tedious; yet when suppuration is induced, and the abscess freely opened, the animal generally gets well.

W. DICK.

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No. XIV.

PALSY IN A COLT AFTER CASTRATION.

IN the beginning of the month of May, a bay year-old colt was castrated, and which did perfectly well. Fourteen days after the operation he was turned out to grass. On the sixth day after being turned out, he was found in the field apart from the rest of the horses, shivering, and seemingly without power to move. He was immediately taken up, and bled; a gentle dose of physic was given to him, and he was put into a warm box. The legs were bandaged, and the loins and legs well rubbed with liniment.

In a few days after the first attack, he began to recover. He lay down and rose perfectly well; but there was a little stiffness in walking. On the tenth day he was again turned out.

Six hours after he had left the stable he was again found down, and unable to rise. With assistance, however, he was once more got upon his legs, and taken into his box. A drench of spt. ether. nit. ʒj, and gum camphor ʒj, was given in a bottle of warm water: the loins were blistered, and a sheep-skin thrown over him: two rowels were inserted in the thighs, and one in the chest. He was put into slings the next day. His bowels are regular, his urine natural in quantity and appearance—he feeds well, and seems no way affected in his health, except that he still continues to have no power in the hind extremities. He has now been fourteen days in the slings, and there is no improvement. The weather has been very cold and changeable—the day before he was attacked was rainy, and the night frosty.

June 15th, 1839.

Dear Sir,—The above is a case of a colt of mine, as drawn up by one of my grooms, and upon which I am desirous of having your opinion. The colt is in perfect health, eats and drinks like a tiger, but has no use of his limbs.

I am, truly yours.

## ANSWER.

June 18th.

Dear Sir,—It appears to me that the colt must have got an injury of the spine, either during the operation or while in the field, and which has extended to the spinal marrow. I have known cases of fracture of the spine, where the animal has so far recovered by rest as to seem fit for work in a short time, because there was no displacement, but in which motion soon produced fatal effects. I think this something of the same kind, and from his youth imagine it to be possible that he may, with time and care, have a chance of recovery. From the circumstance of his having been so recently castrated, the disease might have been supposed to be some tumour or abscess within the pelvis, pressing on the nerves of the posterior extremities; but the state of his health shews that this is not likely to be the case, as he would exhibit some degree of fever.

4th Oct.—I have just learned that this colt is now greatly recovered, gradually gaining strength and the use of his legs.

W. DICK.

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COMPTE-RENDU OF THE PROCEEDINGS OF THE  
ROYAL VETERINARY SCHOOL OF ALFORT,  
DURING THE SCHOLASTIC YEAR 1838-9.

## THE HOSPITALS.

*Professor, M. RENAULT—Assistant Professor, M. BOULEY.*

DURING the scholastic year which has just expired, 844 animals of different species have been received into the hospital for medical treatment. The total number of horses was 566, of which 390 were dismissed cured, 30 died in our infirmary, and 146, the greater part of whom laboured under farcy or glanders, were destroyed for different purposes, or sent to the Abattoir.

Of 269, the number of dogs which were received into the hospital, 174 were cured, 65 died, and 30 remain under treatment.

A considerable number of cattle, sheep, and swine were under treatment at the school or elsewhere, on account of the epizootic disease which has raged in Paris and the environs.

Independent of the sick animals that have been received into the hospital, there have been brought for consultation at an early hour in the morning 2075 animals of various species, either on

account of internal or external diseases, or for examination with regard to soundness.

On each of these cases the Assistant Professor has given his opinion verbally or in writing. On many of them he has practised certain surgical operations. From the whole it has resulted, that either in the hospital or in the daily consultations, the advice and care of the Professor have been required for more than 2920 animals.

Beside these, the pupils of the fourth year have, under the direction of the Professors, practised on the animals of a great number of persons in the neighbourhood of the school.

*Maladies of the chest* have been very frequent in our hospital, and have furnished the pupils with much matter for clinical instruction. Their attention has been especially directed by the Professor to the different nature and character of the various diseases which have been included under the generic name of pneumonia.

He has also endeavoured to demonstrate to them the varying treatment of the different forms which it exhibits. When under the influence of a favourable season and a good constitution, pneumonia has the character of simple inflammation; but in other circumstances, in unfavourable seasons, or in debilitated constitutions, it is soon associated with morbid lesions that are with difficulty combatted.

The various antiphlogistic, tonic, or revulsive means, which have been too exclusively employed or too much neglected by practitioners, have been studied with the utmost care, as to their bearing on the different species of pneumonia.

The employment of chlorine gas, and in a considerable quantity, on animals in small stables, has in two instances cured gangrenous pneumonia, accompanied by symptoms so decisive that the patients had been abandoned as incurable.

GLANDERS AND FARCY.—These diseases have received the most earnest consideration from the Professors, not only on account of their serious character, but because they are evidently becoming more frequent among us than they used to be. In fact, more than 150 horses with farcy or glanders, or both, have been brought to our infirmary during the last year, and, the greater part of them, after having been previously submitted to a course of treatment of longer or shorter duration. In despite of all the means to which we have had recourse, and the frequent and free use of every mode of treatment which authors, and even empirics, have announced as efficacious against these maladies, we must make the mortifying avowal that, during the past year, as in the preceding ones, glanders has not been cured in our infirmary. We must not,

however, be misunderstood—we refer to glanders, plainly and palpably developed, and not to those slight engorgements of the submaxillary ganglions, and those ephemeral discharges from the nostril, which are curable by the most simple means, and of which, from their apparent resemblance to glanders, charlatans take advantage to impose upon the public, and to establish the belief that a cure has at length been discovered for this incurable disease.

Our experience is fully confirmed by that of the military infirmary of Amirault, and of the committee to inquire into the proceedings, of which Renault was a member.

It is more than two years since that infirmary was established by the minister of war for the very purpose of experimenting on the treatment of this disease. An appeal was made to all those who, in good or bad faith, pretended to be able to cure this dreadful malady. A great number of them answered to the appeal, and horses that had been pronounced by the commissioners to be manifestly glandered were put under their care. Not one of them was able to demonstrate, we will not say the *constant* efficacy of his mode of treatment, but the slightest advantage did not appear to result from that of which he had previously related wonders. Thence it has happened, that the prudent, soi-disant, curers of glanders begin to be not a little fearful of compromising themselves; and, whatever else they may do, they hesitate to expose themselves to the dangerous *surveillance* of the commission of Amirault.

As to “Farcy,” although it has, like glanders, assumed a peculiarly untractable character during the whole of this year, yet it has been successfully treated in almost every case in which it has appeared under the form of circumscribed buttons or isolated cords without any febrile phenomena, and in young and healthy horses; but we have almost constantly failed when farcy has attacked any considerable portion of the surface—when the animal has begun to lose flesh—when the patient has been old and debilitated—and when a low febrile affection has accompanied or followed the development of the complaint.

It appears from the experience of our school, and also from the correspondence which the Director has held with a great many veterinary surgeons in the different departments of France, that the mortality of glanders and farcy has considerably increased during the last few years, and especially in the establishments of the coach proprietors; but the cause of this is probably to be traced to the excessive fatigue and complete exhaustion which is the inevitable consequence of the labour that is imposed on these horses.

The industry of the country appears to be almost daily more and more developed. More rapid communication between the

different departments is absolutely necessary, and a degree of labour is consequently required of the horses which far exceeds their physical power: consequently these two diseases, which are ever associated with the suffering and enfeeblement of the animal, become more and more frequent every year.

As to the *contagion* of glanders, the consideration of which has formed part of our *comptes rendus* for many years, we again repeat, that there is nothing so far from having been demonstrated, and that the new and numerous observations which have been made or collected during the past year, have confirmed us more than ever in the belief that *glanders*, under its chronic form, cannot be communicated from an animal that is infected by it to a sound animal of the same species; for, not only have we never seen it communicated by cohabitation, but not even by inoculation, which we have attempted again and again, but without success.

These results accord with the experiments which have been made on a large scale at the experimental farm of Amirault.

With regard to *acute glanders* our opinion is not so decisive. The inoculation which was practised by MM. Renault and Bouley, on at least twenty horses of different ages and in different states of condition, had always the same result; namely, to produce precisely the same disease in the inoculated animals; and this new malady, like the first, possessed the property of being transmitted by inoculation: but—and this is a fact of immense practical importance—no sound horse, put in immediate relation and contact with horses affected with acute glanders, and kept with them for several days, whether at the commencement, the height, or the decline of that disease, was in the slightest degree affected.

These results, similar to those already obtained and published by M. Renault, if they are not sufficiently numerous to decide a question of so much importance, must, at least, render us doubtful of the truth of the opinion held by many veterinary surgeons, that, in order that this dreadful disease should be propagated, it is only necessary that a sound horse should, for a few days, or even for a few hours, be placed in contact with another labouring under acute glanders; or that it is sufficient that a sound horse shall be placed in the same stable, or occupy the same stall, as that in which a glandered horse has stood, in order to be affected by the same disease.

There is one point connected with the contagiousness of mange of too serious a character to be passed in silence—the possible transmission of mange from the horse to the human being.

It is too true that the human being may be affected with acute mange, that cruel and fearful disease, which, until within a few years we had thought to be peculiar to the monodactylous animals.

This school has, in the year just expiring, added another mournful case to those previously recorded in the hospitals of the biped of the communication of glanders to the human being. Must we, however, conclude that the contagion which has been communicated produces precisely the same disease as that of which the horse died? Although these unfortunate individuals may have been placed in contact with certain glandered horses, is it necessary that from this contact they may have obtained the germ of the disease? and yet it is on data of this character that the opinion is propagated, and said to be definitely demonstrated, by many medical men, that glanders is communicable from the horse to man. For reasons, however, which would be too long to state in this compte-rendu, and observing all the precaution which prudence prescribes in deciding on such a case, we have not seen in all the facts which have been produced any circumstance which demonstrates the contagion. On the contrary, there are so many facts which have existed from the earliest period, and which are now of daily occurrence in our schools, in the army, and in the practice of the veterinary surgeon, of men of every condition being daily in direct and prolonged relation with glandered horses, and yet suffering no harm, that glanders in the human being is more probably to be attributed to other causes than that of contagion. For the most part, these unhappy beings who furnish the examples of acute glanders are precisely in those conditions of health and of habitation which produce acute glanders in the horse, and is it not at least as rational to attribute the disease to those conditions as to contagion? However this may be, the question is too interesting to science and humanity to be settled by mere theoretical reasoning. MM. Renault and Bouley have, therefore, undertaken a series of experiments, which, although made on quadrupeds, possess very great interest as connected with this subject. It results from these experiments that acute glanders is developed spontaneously in horses affected with old suppurating wounds, whether these animals had, at the time the wounds were inflicted, any apparent germ of acute glanders, or were already affected with chronic glanders, or were entirely free from disease.

But that which observation had rendered probable has been confirmed by experiment. Pus taken from animals that were not glandered has been injected, with certain precautions, into the veins of horses labouring under chronic glanders, and acute glanders has appeared in the course of a few days. Pus taken from a horse free from glanders has also been injected into the jugular of a sound horse, and, some days afterwards, that horse has died with acute glanders. A little while after this, there were two horses in



our hospital in the interior of whose veins some purulent deposits had formed and opened, and both of whom died a few days afterwards of acute glanders.

It is, then, evident that, without any other cause, acute glanders may be developed in debilitated subjects in whose system a long and abundant suppuration had infused or infiltrated its poison.

A second result from a variety of experiments, made by us and a great number of other veterinarians, is, that chronic glanders cannot be communicated from one horse to another, even by inoculation. Then, if even inoculation will not communicate chronic glanders from one horse to another individual of the same species, is it likely that simple cohabitation, or that any transient contact, will transmit it to an individual of so different a species as man?

The same induction follows from that which we have already stated of the harmlessness of the simple cohabitation of horses affected with acute glanders, with those that are sound. MM. Renault and Bouley propose to multiply their experiments on this last point.

Finally, in order by every possible experiment to settle the question of the transmissibility of mange from the horse to man, these Professors, after having proved by two different trials that the glanders of the human being could be transmitted to the horse by inoculation, have wished to assure themselves whether, in the same way, the glanders of the horse could be transmitted to other animals. With this view they have, for the first time that such experiments have been attempted, inserted the matter of acute glanders taken from the horse into the cheeks or different parts of the body of a sheep, a pig, and a dog. After a more or less considerable inflammation and suppuration around the wounds, cicatrization took place, and the animals were in no other way affected.

The same experiment was repeated about twenty days afterwards on another sheep, dog, and pig, with the matter running from the nostril of a horse labouring under acute glanders. The result was precisely the same, except that the wound and the local swelling produced by the inoculation on the face of the sheep have not quite disappeared. If other experiments of this kind which Messrs. Renault and Bouley propose to make should be attended by the same results, shall we not be justified in expressing our surprise that simple cohabitation, or the usual concern which a man may have with one or more horses affected with chronic glanders, should become the occasional cause of acute glanders in him, when inoculation with the virus of that malady on different parts of an animal so debile as the sheep, so much resembling the horse in his organization, and herbivorous like him, could not communicate it, although it was twice attempted; and when, also, it had so little

effect on the pig, omnivorous like the human being; and although it is beyond dispute that inoculation is always effected when attempted on the horse, and whether the virus is taken from another horse, or from the human being?

However, notwithstanding these considerations, the importance of which cannot for a moment be denied, MM. Renault and Bouley will not consider the question as finally settled, but will put it to the test of other experiments.

RABIES.—Some facts observed in our hospital during the course of the last session have confirmed the opinion stated by M. Renault more than two years ago, that rabies loses a portion of its contagious property after several inoculations. Animals that become spontaneously rabid infallibly communicate the disease to the animals which they bite, and these can also, by inoculation with their saliva, transmit it to other animals; but the bites of the latter are slower in producing their effect, and are not infallibly virulent. We will cite, among other examples, that of a large butcher's dog, which, when the disease was at its height, bit another dog and a horse. Two other dogs were inoculated with the saliva of the second dog, and others were bitten by him, without either of the bitten or inoculated animals exhibiting the slightest symptom of madness, although it is nearly four months since the experiment was made.

M. Renault had already stated, from the result of many observations and experiments, that the saliva of herbivorous animals when rabid did not appear to have any rabific (*ragifères*) qualities: A new example of the innocuous property of this fluid exists at the present in styes belonging to the school, where there have been sent, to be kept under our care and observation, a boar and a sow bitten on the 2d of last July by a sow that had become rabid forty days after the bite of a mad dog. These two animals have not, for a moment, exhibited the slightest appearance of disease.

It is also an erroneous opinion, although generally prevalent—its existence and occasional dangerous and fatal results depending on the common use of the word hydrophobia, and against which the public should be put on their guard—that rabid animals have any fear of water or of bright objects. We have had many opportunities, during the past year, of shewing the fallacy of this opinion. In fact, not only have the animals no dread of water, but they search for it, and attempt to drink it as often as they have opportunity. Water placed immediately before them, and violently agitated, produces in them no alarm, as we have a thousand times experienced; and the rays of the sun reflected on them by any smooth or polished body do not, for a moment, interrupt the calm which intervenes between the exacerbations of the disease.

THE JUGULAR VEIN.—A great many new and important operations and different modes of treating disease have been attempted

during this session, and which the pupils have had the opportunity of witnessing; also the practice of ligature on the veins—the best mode of castrating, as described by M. Chervier in the *Recueil Veterinaire*, and some experiments on the employment of the Water of Rabel (composed of sulphuric acid five and alcohol thirty-six parts) in the arresting of Hæmorrhage. The different phenomena which have resulted from a ligature on this vein, whether in sick horses or in others that were kept as subjects for experiment, have engaged much of our study. The jugular was selected on account of its superficial position and its volume.

We have endeavoured to follow the phenomena of inflammation of this vein in all their different phases, from the moment of the application of the ligature round the vessel to the process of obliteration which Nature employs in order to produce cicatrization of the part.

These experimental studies have served in a singular manner to enlighten the history of thrombus of the jugular vein, and the different phenomena which accompany it, when it is attended by inflammation of the vein, with or without ulceration.

When the caliber of the vessel is effaced by the pressure of a surrounding ligature, a clot of blood forms in the infundibulum which the vein presents above the ligature, and extends to the first considerable ramifications of the jugular in the parotid gland. This clot being once formed, determines by its presence that degree of inflammation in the tissue of the vein, and in the cellular tissue around it, which seems necessary to the organization of the clot; and all the degrees of this inflammation are in direct relation with the modifications which this clot must undergo. If the animal is killed seven or eight days after the passing of the ligature, we can perfectly recognize the traces of that inflammation in the tissues which surround the clot.

The cellular tissue adjacent to the vein is also infiltrated with a great quantity of citron-coloured fluid. Having become more dense and friable, it adheres to and confounds itself with the exterior membrane of the vessel.

This membrane is itself thickened, infiltrated with serosity, become more friable, and confounds itself—to the extent that there is no longer any marked point of separation between them—with the central membrane, which assumes precisely the same characters; but—and it is of the highest importance to note this, in order to study the consecutive phenomena—the internal membrane of the vessel does not undergo any modification. It preserves all its white, pearl-like appearance, and its polish. The most minute inspection will not demonstrate the smallest vessel developed in its substance.

The clot which the vein contains is yet black, and adheres already, by its whole periphery, to the internal membrane to which it seems fixed, as if there were a true agglutination between them; and it is a remarkable fact, that this adhesion is stronger in proportion as we examine it near the ligature.

If we dissect the clot, we shall find that it has already begun to undergo some modification. It seems to be composed of the superposition of numerous concentric fibrinous layers which can be perfectly disengaged from each other by a tolerably careful manipulation.

If we follow, in a series of experiments, the different phases of the phenomena of the inflammation of the vein and the organization of the clot which it contains, we shall see that, in proportion to the time which has elapsed since the application of the ligature, the exterior cellular tissue of the vein becomes condensed as it is gradually and intimately mingled with the external and central membranes of the vessel, so that, about the twentieth or five-and-twentieth day, they resemble a white indurated tissue, creaking under the knife. Still the internal membrane preserves all its normal characters; and if there were not a greater degree of whiteness resulting from its transparency which permits us to observe its subjacent white tissue, we should not be able to discover any difference, even at the thirtieth day after the ligature, between this membrane and that of a healthy vein.

As for the clot, in proportion as time passes on, its structure of concentric layers becomes more and more evident. It diminishes in volume on account of the reabsorption of the liquids which impregnate it—it changes its colour, and becomes of a fibrinous yellow by the disappearance of its colouring matter, and it adheres still more intimately to the internal membrane of the vein.

Such, rapidly described, are the phenomena which take place in a vein which is the seat of adhesive or cicatrizing inflammation: but there are some different conditions of this obliteration with which it is of considerable importance for us to be acquainted.

The first is, that the clot contained in the interior of the vein should be completely removed from the contact with air—that the exterior inflammation of the vein should be elevated to a moderate intensity—and that the animal shall be in good health.

M. Renault formerly made some experiments with a view to prove the indispensable necessity of the absence of air in order to the organization of the clot in the interior of the vein. These experiments have been repeated during the last session, and with the same results.

If the ligature of the vessel, which ordinarily falls off between the tenth and sixteenth day, detaches itself before the clot becomes

perfectly adherent above, or if the membranes have been cut by a ligature too tightly drawn, or, finally, if with a view to a practical experiment an opening has been made in the vessel above the ligature—in all these conditions, the air establishing itself in contact with the blood, the concentric layers of the clot begin to be effaced. The clot itself becomes altered—it liquefies, and escapes through the opening in the vessel in the form of a deliquum, which diffuses a noisome gangrenous odour. The canal of the vein being re-established in consequence of the termination of the adherence of the clot, hæmorrhage immediately succeeds, and the result is inevitable.

If the exterior inflammation is elevated to too acute a type, the incubation—if we may use the term—of the clot within the vessel can no longer proceed. It becomes suppurated, and an abscess, formed by the softened fibrine and by the pus that is mingled with it, is developed in the very interior of the vein.

That, however, which may render this accident less serious, is that often, above the place where the too intense inflammation has determined the suppuration of the clot, its type is sufficiently moderate for it to become adhesive. Then the clot becomes organized, and no hæmorrhage takes place.

Finally, when the blood, by reason of the bad constitution of the animal, is not in a healthy state, the organization of the clot is slow in its formation—the ligature falls before the adhesion is perfect—contact with the air is established—and all the phenomena just described take place.

Let any one compare these phenomena of which the jugular vein is the seat in consequence of a ligature, with those which exhibit themselves in the same vessel when thrombus has determined inflammation there, and he will be struck with their perfect identity.

Thrombus develops itself in a healthy animal, determines by its presence a degree of pressure on the jugular, and effects the obliteration of it; a clot forms itself in the interior of the vessel—the external membranes become inflamed—the organization of the clot is effected—and the vein is obliterated. This is the process of adhesive inflammation.

At other times, at the period when the clot is undergoing the process of organization, the animal rubs his neck—he determines a dilatation of the vein at the place where the puncture for bleeding was made—the adhesion of the interior clot is broken—the air establishes itself in contact with it, and effects the softening of it; and then consecutive hæmorrhages manifest themselves, more abundant and more fearful, in proportion to the largeness of the opening. At other times, whether it is because the animal has rubbed himself at a period more distant from the commencement of inflamma-



tion, or whether because applications too irritating have been made across the track of the indurated vein, inflammation rises too high, the suppuration of the clot is effected, and an abscess formed in the interior of the vein is not slow in finding an issue outwardly through the orifice effected in the bleeding. In this case, as we have said before, the obliteration of the vein being effected in the very branches of the jugular, there is no hæmorrhage to fear, but an obstinate fistula at the place of the abscess, throughout the whole extent of the vein, and lasting until the exfoliation of the internal membrane is completely effected. Finally, who has not been struck with the frequency of those hæmorrhages which manifest themselves so often in consequence of thrombus in horses out of condition or of weak constitution?

The indications of treatment which result from this anatomical study of the phenomena of inflammation of the jugular vein are simple, and easy to be understood.

At first, the flowing of the blood and the contact of atmospheric air are effected by the application over the tumour of the thrombus, if such should exist, of a pledget covered with blistering ointment, or a bandage mingled with powdered cantharides, which is very efficacious in producing this double result. Afterwards, when inflammation is developed, it is moderated by the continuous employment of emollient applications. Then, when the induration is formed, the application of irritants or of the cautery over it, in order to produce its absorption.

If fistula exist, following the track of the vein, some stimulating fluids may be injected, or a seton may be passed to destroy the internal membrane, imperfectly organized, and which must exfoliate before cicatrization can be effected. Such are the simple means which it will generally be sufficient to adopt in order to bring about the cicatrization of the vein.

The ligature of the jugular, which has been advised in case of obstinate hæmorrhage through a considerable orifice, is a measure too often unsuccessful for us to think it necessary to dissuade the surgeon from having recourse to it.

The principal cause of the little efficacy of that operation consists in the inflammation, which renders the walls of the vessel so friable, that the ligature is soon disengaged, and thus permits the disorganizing action of the air upon the clot.

[To be continued.]

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## THE VETERINARY ART AMONG THE HINDOOS.

THE Bengal Sporting Magazine for May 1839 contains a translation, or rather an attempted one, of the only work in the Hindoostanee language that is extant on the diseases and management of horses. It is entitled "*Furs Namu*;" but what is the meaning of this he does not condescend to inform us. The name of the author is unknown. It was composed in rhyme, at the suggestion of Mahommed Buksh, of Lucknow. The reader must not expect any thing peculiarly new or valuable in such a book, but it will be interesting to know what the Hindoostanees think of the horse, his diseases, and the mode of treating them. There is, however, one irreparable defect, the non-translation of many words, which might with the greatest ease have been given.

The early portion of the work is divided into sections, the first of which refers to the conclusions which may be drawn from certain marks or tufts of hair growing on different parts of the animal. This section is far too imaginative for us—we therefore pass it over.

The second section promises something a little more practical. It treats of the nature and effects of spavins, splents, &c.

"If the veins inside the hocks swell, the swelling is termed '*Mooturu*;' if small, they are no harm; if large, they are hurtful.

"Examine well near those veins; if other bones protrude beyond the joint bones, doubtless know that is a spavin. Listen not to the *bukbuk* of the dealer: if the swelling be pointed, it causes lameness; and if you buy the horse, you will be disgusted with him; but if it be flattish, '*chupta*,' you may work him hard without harm: the wise, however, have agreed that to judge well of spavins is difficult.

"When a bone protrudes on the shank bone, the *dulal* calls it a splent, '*Ber-huddee*.' They reckon it a trifle, for it soon gets well: but the English call it bad, for, in their opinion, one is apt to succeed to another.

"If the coronets of the fore-hoofs be thickened, you may keep another horse as an assistant; for if not lame, he will become so.

"If above the knee and hock-joints there be swellings of the size of an egg, they matter not essentially, although outwardly a blemish. Their name is '*Buezu*.'"

The third section treats of other and minor blemishes. There is nothing very erudite in it, yet few horsemen will object to the decisions of the author.

"I will now tell thee how a bad horse may be found out, provided a man of judgment look at him.

"A horse whose teeth are longer than ordinary is called camel-toothed, '*Shootur dundun*.'

"'*Pureshan gosh*' (lob-eared) horses are reckoned by the north-

erns exceedingly strong. None but they approve them: they are also my antipathy.

"The horse with flat hoofs will become useless in the hot weather, and among hills he is called '*Chupatee soom*.'

"If a horse's hoofs have a curve inwardly, he will assuredly stumble much; he is called '*Khur soomu*.'

"That horse whose rump is small, will never be fat: the dealer won't buy him: he is called '*Tubr gon*.'

"If the hocks are close to each other, it is termed '*Kujul*.' Lament not—he will move certainly with speed, and with strength too: he is of use to a soldier, but dealers won't buy him."

Section the fourth treats of the good and bad properties of horses. It is a little fanciful and erroneous, and yet a portion of it is not far wide of the truth.

"Every body calls that which can be covered by the thumb a '*Sitaru*' (star): take him not; most unpropitious is that.

"If (the spot) be bigger than a '*sitaru*,' it is called *Tubl*, and is of no harm.

"That horse who has one eye white will cause his master to weep; he is called '*Taqee*;' he will beggar him. Kick the seller from 5 to 100 times: he is very bad omened. [This is a curious superstition, and yet there is generally something wrong about the horse with one wall eye.]

"If both eyes are of this unusual colour, although the horse may be in reality good, he is not pleasant to look at.

"If in this whiteness there be a mole, the *dulals* call him '*Pudum*;' all tribes esteem him good, but the Moghuls from Isan take him not, saying he is '*Khaldar*.'

"If a horse has one hind leg white, esteem him not good; this is not limited either to the right or left: he is bad, hope nothing from him. The prophet has said he is bad:—what dispute can there be about it?

"If there should be any discourse of the colour of horses, then say the '*koomet*' (bay) is the best of all; then (white) '*khing*;' then '*sumund*' (dun with black legs); then '*mooshkee*' and '*qula*' (black); descending is the '*gurra*' (sorrel), and '*subza*' (grey); the (chestnut) '*soorung*' is not quite so good as the above: next to him comes the '*shurghu*' (golden chestnut); worst of all is the '*punchkuliya*' (piebald), and '*chal*' (roan): there are none after these of any value.

Section 5 treats of what are called the "five acknowledged defects."

"That horse is called '*Kohnu lung*' who goes a little or not at all lame at first; but when he has travelled a stage he plainly shews it. To discover the cause of that lameness is often difficult.

"Should you suspect a horse to have '*Kumuree*' (weakness of

loin), drive him smartly up a rise. If he go up clean, he has no '*Kumuree*;' or sit and stay awake near him all night. If, after lying down, he gets up fair, you may take him; if the contrary, be sure you give him back.

"The horse which eats little is called '*Kumkhor*,' and will be assuredly weaker than all others: there is no other indication of him, except that he voids his dung in small knobs.

"If a horse be '*a biter*,' what's the use of any explanation?—it speaks for itself. This habit will never wear off. Most viciousness is cured by gelding, but this is inborn. Gelding even makes it worse: I have proved this a hundred times.

"Askest thou to know how a horse is '*Shubkor*' (night-blind). At night throw a blanket before him: if he fearfully flee, he is no '*Shubkor*'—or, if the night be dark, spread a white sheet before him."

The division into sections now ends, and we have several unconnected paragraphs, each having its separate heading. The first is a little dogmatical, and as erroneous as it is positive.

"First of all, is the horse from '*Uthul*,' for he goes far, and requires little food; next comes the horse of the jungles: compared to these, all horses are asses!"

When we look at the second, we could almost fancy that we are listening to the dicta of one of our own Professors.

"Incline the ear of thine heart this way. Every horse has six teeth above, and six below (nippers); the milk teeth (*kuchcha dant*) are white. When the middle ones are shed, he, who had been called a colt, is termed a three-year-old: when he sheds the next two, they say he is four; when the corner teeth fall out, he is five. At that time, near the '*chowkee*' protrude two teeth, round and fine, called *nesh* (tush). After that, you must ascertain the age according to the decrease of the black spots in the teeth. When they are all worn away, you may, without regard to what any body else says, set him down as '*mule punj*,' ten off. Then compare his teeth and tushes, mark the difference, and give a guess. Then look attentively at his eyes; if the hairs there are sunk much, the animal is very old. When a mare has become '*mule punj*,' to tell her age is very difficult. I have explained the way as is known at this time; there are others, which no one attends to now, and on this account I have not mentioned them; moreover, they are not all known to me. I have told you what is necessary."

The work now begins rapidly to increase in interest.

"In administering medicine always attend to the size of the horse, to his constitution, and to the season of the year.

"There are four methods of deciding on a horse's sickness. To tell from looking at the corner of the eye—the *caruncula lachrymalis*—and from the dung and urine, is not difficult: the fourth method

cannot be expressed ; it is called intuitive perception (*ilmi scenu*), it cannot be put down in a commonplace book.

“ If the colour of the *caruncle* be pinkish, then understand ye nought ails him.

“ If the corner of the eye be pale-coloured, this comes of his having *surdee* (cold); accordingly, give him about two tuka weight of green ginger after his corn, continuing this for three or four days: or give him a date or almond, in the same manner, but not more than one of each.

“ If the corner of the eye be yellowish, the horse has *badee*; then mix black pepper with flour made from ‘*moth*,’ and give him some for ten or twenty days before he gets his water; or mix about two pice weight of dry ginger with six mashas of *bhang* in a little flour, and give it him after his corn, but not for more than three days: or you may give him four pice weight of fennel (‘*soa*’) in his corn for five or ten days together.

“ If the corner of a horse’s eye be very red, this is *Butanu Soorkh*; he then has a fever. Pound up equal parts of *Tirphula* (*hur*, *bukera*, and *amla*) at evening time; take five tolaks of this and steep in an earthen vessel. Give it him fasting, before dawn, then take him out to exercise; continue to give him this until he gets well. Or give him a *courie*’s weight of oil in water for one day only, and, if the redness extends over the whole eye, the fever is very high: give him *tirphulu* and *kuteera*, and white *zeerus*, in equal parts.

“ If the redness be extreme, and small black specks (*chittee siyah*) be diffused through it, then you may despair of that horse living: holes have formed in his liver.

“ If his urine be white, then know he has *surdee* (cold).

“ Give him hot *musalu*, as laid down before.

“ But if it be yellow and thick, then give him the remedy for *badee*.

“ If it be red, then it is a sign of fever. I have mentioned what to do for that:—look back.

“ If a horse voids thin dung, then he does not digest his corn well: if you mind me, give him no corn for several days, but give him *musalu*, and let there be two pice weight of *bhang* in it. If there be slime in the dung, he has *anu*; give him (*raee*) mustard.

“ If you wish to fatten a colt, boil one seer of bruised wheat in ten seers of milk; mix one seer of sugar in that: feed with this after he has had his water. This is called *kheer*.

“ But you must always give black pepper with the above. It is not good to give ‘*kheer*’ alone; it is to be given thus:—Pound four pice weight of black pepper, mix with flour, and administer; after that give him water.”

[To be continued.]

## AN ACCOUNT OF AN EXTRAORDINARY CALF.

*By Mr. S. WHEATLEY, Staindrop.*

A COW belonging to Mr. W. Wilson, near Wolsingham, was put to the bull on the 9th of January, 1839, and calved a bull calf on the 10th of January, 1840, having been with calf fifty-two weeks and one day. The calf died soon after its birth, and the following are its dimensions and weight: Length from the nose to the cleugh of the hind foot 7 feet 2 inches, round the chest 2 feet 10½ inches, length of tail 22½ inches, the hair at the end of the tail 4½ inches, the teeth  $\frac{7}{8}$  of an inch long; being the size of a three months' old calf. His weight was 8 stone 2 pounds. The cow (half bred) is doing well.

This, I fancy, is the longest period of gestation in the cow that has been yet recorded. I have taken the above from "The Newcastle Journal," for January 18, 1840.

## A CASE OF METASTASIS OF INFLAMMATION.

ON the 8th day of August 1837, I was requested to attend on a black colt, three years old, the property of Mr. P—, of this town, with the following symptoms. He walked with his hind legs much under the body, the fore feet were very hot, the pulse 60 per minute, and a strong pulsation of the plantar arteries; the breathing was quick, a cold sweat bedewed the body, and the bowels were a little constipated. I at once declared it to be a case of inflammation of the sensible laminæ in both fore feet, and, upon inquiring, I heard that he had been a long journey on the previous day, and had been bled this morning by a horse-dealer in the town to the amount of four quarts.

*Treatment.*—I had his shoes taken off, which was accomplished with difficulty, and bled him in both heels, to the amount of at least four pounds. His feet were pared well, and rasped quite thin, and I had the feet put into warm water, to encourage the bleeding; poultices were then applied to the feet, and ordered to be kept wet with a cold lotion. I then gave him aloes Barb. ʒiij, nit. potassa ʒss, ant. tart. ʒj, pulv. glyc. ʒss, in a little warm water.

8 P.M.—No better. He is lying down. The feet still hot; pulse 62, and hard; the breathing about the same as in the morning. I got him up, and bled him to the amount of ten pounds, and again plunged my lancet into both heels; and ordered aloes Barb.

ʒij, nitrat. potass. ʒj, ant. tart. ʒij, pulv. digitalis ʒj, pulv. glyc. ʒj, divided into two powders, one to be given immediately, and the other in the morning, in a little warm water. The clysters and poultices to be continued, with plenty of warm water to drink, and mashes to eat.

9th.—10 A.M. Better. The bowels a little open; but the pulse still about 60. The pulsation at the plantar arteries not so strong, and breathing not so quick. Continue the powders, but omit the aloes.

3 P.M.—I visited my patient with the hope of finding him still better; but to my surprise I found him rolling in his stall, looking at his sides; the breathing quickened; the pulse 80; the pulsation not throbbing; the feet cool; cold sweats on every part of him. On inquiring of the groom what he had given him since I last saw him, he informed me he had drunk a pailful of warm water, and eaten a handful of vetches. He (the groom) maintained that the horse was a great deal better; but unfortunately it proved the reverse, for he became worse every hour: in fact, it was a clear case of metastasis of inflammation from the feet to the bowels.

I immediately ordered some well-boiled gruel, and bled him to the amount of four pounds. I dared not to take more, for the pulse faltered. I ordered opiate medicine, with plenty of emollient clysters; fomentations and stimulants were applied to the abdomen, but all to no purpose, for he died between five and six o'clock the next morning.

*Post-mortem examination.*—The intestines were inflamed. The peritoneum, particularly, was in a high state of inflammation, and easily torn. The thoracic viscera were healthy: the feet were as free from disease as if nothing had been the matter with them. Query, Were the vetches the cause of the metastasis? It was contrary to my orders that they were given, but grooms, as we well know, will have too much their own way. Could the cold lotion have any thing to do with it?

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[To the first query we answer unhesitatingly, No; and to the latter, Yes. The horse had five drachms of aloes in him; and a handful—and probably he got a double handful—of the tares would be sure to produce colic, and probably excite dangerous inflammation. There is reason to hope that, with the improvement of our art which is now rapidly proceeding, the empire of the groom in the stables of the gentleman will cease to be so powerful and so mischievous.

We have had this letter by us several months, but the envelope which contained the name of the writer has been mislaid.



We are sorry for it. If he will kindly favour us with another paper, we shall be enabled to do him justice. It is a simple case, and not of unfrequent occurrence; but it cannot be too often forced on the observation of the proprietor of horses.—Y.]

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## THE INFLUENCE OF THE ANTERIOR AND POSTERIOR COLUMNS OF THE SPINAL CORD.

Mr. PERCIVALL has kindly directed our attention to a discussion which lately took place in the Royal Medical and Chirurgical Society. A report of it is given in the *Lancet*, of the 21st of February, and is entitled “Case of Disease of the *posterior Columns* of the Spinal Cord, by Edward Stanley, Surgeon to St. Bartholomew’s Hospital.” The appearances after death are perfectly contrary to the notions which were first promulgated by Sir Charles Bell, and which have been generally adopted by physiologists. We will merely copy from this valuable journal, and leave it, at present, to younger and more ardent inquirers to reconcile the apparent contradiction.

“Mr. Stanley considered the case he was about to relate as worthy of being recorded as a well-marked example of disease strictly limited to the posterior columns of the cord, yet producing phenomena at variance with the doctrine of the distinct influences of the anterior and posterior columns of the cord on the faculties of motion and sensation.

“The disease, which was not the result of injury, commenced about three years before the admission of the patient into St. Bartholomew’s Hospital, with impaired motion of the lower extremities, at first slight, but progressively increasing, so that at the time of his admission he could only succeed, by a great effort, in raising his legs from the ground while sitting in a chair. Before the patient’s death the inability of motion became complete in each lower limb, in its whole extent. In no part, however, was there any defect of sensation confessed by the patient, whether the skin was scratched, pricked, or pinched. On dissection after death, no signs of disease presented themselves, except in the spinal cord. Here, contrary to the anticipations of many persons who saw the case (and much interest was excited with reference to it), no disease whatever was found in the anterior columns of the cord. An extensive change of structure and colour was, on the contrary, manifest in the posterior columns, from the pons to the lower end of the cord. ‘The value of the case,’ says the author, ‘consists in the distinctness of its phenomena being acknowledged by many competent observers to have been such as they are here recorded.’

“Dr. Budd remarked, that the case related contained facts which were directly opposed to the generally received opinion, that the sensitive nerves come off from the posterior columns of the spinal marrow, and those of motion from the anterior columns. He had a case under his care which bore upon this point. A man was admitted into the *Dreadnought* with posterior curvature. The dorsal vertebræ from the fifth to the ninth were carious. There was complete loss of power in the lower extremities, while sensation was unimpaired. He continued in this state until his death, when it was discovered that the posterior columns of the spinal marrow were nearly defluent from disorganization, while the anterior columns were scarcely altered in structure.

“Mr. Solly observed, that it was necessary, in examinations of the spinal cord, to recollect the rapidity with which changes in its structure are effected after death.

“Sir B. C. Brodie said, that, where one part of the spinal column was so much more altered in structure than another, there must have been a corresponding alteration before death.

“Mr. Cæsar Hawkins inquired of Mr. Stanley, whether, in the case related, there was any deficiency of nutrition in the lower extremities, and whether their temperature was at all altered.

“Mr. Stanley replied, that there was no deficiency, either in the temperature or the nutrition of the lower and upper parts of the body in the case he had detailed.”

## THE VETERINARIAN, MARCH 1, 1840.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

AT no previous period, not even in the stormy disgraceful struggle of 1829, did we approach our leading article with the deep and overwhelming interest that we now feel. Since the decease of Professor Coleman, various changes have been effected at the Veterinary College in the education of the pupil—some of them exceedingly useful—all intended to be beneficial, but some pregnant with evils of which the Governors were not at first aware. The attention of the profession generally has been directed to these occurrences; they have hailed with delight the prospect of improvement, and one feeling has actuated the whole body,—the wish to elevate their profession to the rank which it should hold among

the sciences, and in the estimation of the public. The benefits that have been conferred have inspired the hope of still greater improvement, and a spirit of union, of grateful feeling, and of quiet determination, pervades the whole profession. There is one heart and one hand. “Auxilia humilia firma consensus facit.”

In what way, then, could their united feelings and determinations be better evinced than in a respectful memorial to the Governors of the Veterinary College, expressive of their gratitude for the benefits that had been conferred, their conviction of the kind and good intentions of the Governors, and a frank avowal of the defects which still remained, and of the proceedings that were necessary in order to accomplish the common and noble object which both parties had at heart? Messrs. Mayer, father and son, of Newcastle-under-Lyne, have taken the lead in this good work, and have circulated among the profession, for the signature of the respective members, a Memorial to the Governors, which does them the highest credit, and which, there cannot be a doubt, will make its due impression on those to whom it is addressed.

The following is a copy of the

#### MEMORIAL.

“TO THE GOVERNORS OF THE ROYAL VETERINARY COLLEGE.

“*This Memorial of the undersigned Members of the Veterinary Profession humbly sheweth,*

“That your Memorialists, actuated by a desire to promote the welfare of veterinary science, and fully convinced that any suggestions they may bring forward, having for their object the accomplishment of so noble a purpose, will meet with your careful consideration—have thought it their duty most respectfully to address to you a few words on the present state of the profession to which they are devoted.

“In the first place, they cannot but congratulate you that, after many years’ attention to the interests of veterinary science, you are at length beginning to see it occupy that station to which, in every point of view, it is entitled to aspire, and its members, for the most part, assuming that position in society which is their legitimate aim and due.

“The events which have recently taken place in the education of the veterinary student will still further tend to render the pupil competent to practise the ‘veterinary art,’ to fulfil to a greater extent the intentions of the founders of the Veterinary College, and render the veterinary surgeon of still greater importance in the estimation of the public.

“While, however, your Memorialists are happy in giving utterance to these feelings of gratitude, they cannot conceal the regret with which they have regarded several recent resolutions of your Council.

“Having been students in the Royal Veterinary College, and many of them for several years engaged in country practice, they have seen with deep interest the important advances which their sister science, Medicine, has made in the education of her pupils, and they have felt within themselves a natural and pardonable kind of emulation. They therefore trust that you will forgive them if they candidly state to you their opinions on one or two points connected with the present education of the veterinary student.

“In all the medical schools in the metropolis, many of you are doubtless aware that due care is taken, in the first place, to secure efficient lecturers on the different subjects that form the student’s study; and, in the next place, to see that these lecturers are properly remunerated for their time and attention, and the great responsibility which they incur. Your Memorialists have great satisfaction in observing that the Veterinary College has not been backward in providing for the first of these objects; and that efficient lecturers are employed with credit to themselves, and with benefit to the pupil, in elucidating the anatomy and physiology of the horse, cattle, sheep, &c., the pathology and surgical treatment of the horse, and also materia medica, pharmacy, and chemistry. With regard to the other subjects which the founders of the Veterinary College thought fit to select as essential to the education of the student, your Memorialists regret that you have not as yet thought it advisable to appoint labourers efficient to carry all these original designs into effect,—particularly the most important among them, the medical treatment of cattle, sheep, hogs, &c.—

convinced as they are, that such a resolution, on your part, would only equal the demands of the profession and the exigencies of the case. They, therefore, would respectfully suggest the election of such an able pathological teacher on cattle, sheep, &c. from among the profession, who can produce, on public competition, the best testimonials of his capability to discharge the duties of the office he aspires to.

“On the second point before alluded to, viz. the remuneration of your lecturers, you will excuse your Memorialists when they state to you, that they do not consider them sufficiently remunerated, nor do they think that the present low rate of fees is at all likely to promote the respectability of the students or the profession.

“Anxious as they are to place within the reach of every student the means of rendering himself thoroughly educated for his profession—the public expect, and the profession require, that means should be adopted which shall prevent those from deluding the public, and bringing discredit on the profession, who never intend to offer themselves for examination; but who pay the present low fees, stay a few months at College, and then appear before the public as Members of the Royal Veterinary College; there being at present no preventive to their thus acting.

“By increasing the present fee to thirty guineas, *or more*, according to the number of lecturers, your Memorialists are of opinion that your professors would be better remunerated; and that it would form one check against the admission of illiterate students. They would farther remind you, that in no one of the public schools of medicine to which an hospital is attached, are the scale of fees one-fourth part so low as at the Veterinary College.

“Your Memorialists also earnestly entreat, that you will take into your serious consideration the fact, that no distinction at present exists with regard to the period of residence at the Veterinary College between the educated and the non-educated student. There are many young men now at College who have had the opportunity of being under the guidance of their parents or masters to whom they were apprenticed—who have been educated for the profession from their very childhood—and have had ample opportunities of seeing and treating the various forms of disease; but

on entering within the College walls to complete that which they already know in part, they find themselves placed on a perfect equality with those who have never served their apprenticeship, and are totally ignorant of veterinary practice.

“Your Memorialists have no doubt that you will see the equity of making some alteration in this most important matter, relying, as they do, in perfect confidence on your endeavours to devise a plan which, while it renders justice to the profession, will place a further barrier against the admission of uneducated men. If your Memorialists may be allowed to give an opinion on this important point, they would suggest that all students should be required to present indentures at their examination of their having spent three years with some regular practitioner; and also of having attended two full sessional courses of lectures at the Veterinary College; or, in default of the previous advantage of apprenticeship, they shall be compelled to attend three years at the Veterinary College.

“Before your Memorialists conclude what they are afraid has well nigh wearied your attention, they feel it due to their Scottish brethren to state, that they think you have rather unintentionally done them an injustice, in requiring them, after they have graduated at their own school, to remain the same period of time at the London school as if they had never studied at all. They would, therefore, suggest the propriety of your allowing them the privilege to present themselves for examination after a shorter period of residence, on paying the usual entrance fees and presenting their Scotch diploma.

“In conclusion, your Memorialists pray that you will pardon their freedom in thus making known to you what their duty to their profession and themselves imperiously demands, and to assure you that they will, at all times, be ready to advocate every measure of yours, which has for its object the welfare and onward progress of our noble science: and they further pray that you and they may see her continue to advance until she may be able to claim an equality with human medicine and surgery, her members everywhere performing their moral and social duties with honour to themselves, and credit to the institution at which they were educated.”

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The gratulations on the advancing improvement of veterinary education will find an echo in every heart.

To the request of the appointment of some able pathological teacher on "the Diseases of Cattle and Sheep," there will not be a dissentient voice. These were originally designed to form a part of the education of the student. The introduction of them has lately been demanded by the English Agricultural Society, and there is not a practitioner in the kingdom who does not deplore the omission of them. We disavow all feeling of personal disrespect to Mr. Sewell; "we can," as we expressed ourselves in the January number, "admire the zeal of him who would attempt, and fain would worthily execute, every part of his supposed duty, as professor of the pathology of every domesticated animal, but there may be an accumulation of duties to which no individual is or can be equal. He who would successfully unfold and teach all the difficulties of cattle practice must come from among his patients; he must have lived among them, and he must have seen what he teaches." We would urge this on the attention of the Governors and of the English Agricultural Society.

The remuneration to the Lecturers is touched upon in the Memorial. We select the salary of the newly acknowledged Lecturer on Chemistry and Materia Medica. The Professor takes a certain quantum of the £21 paid by the student on his entrance at the College; and he has a salary, and a residence, in addition to this. The Assistant Professor has a smaller share of the initiatory fee, and a smaller additional salary: and, then, there are left for the third teacher three portions only out of the fee of £21; he has no additional salary, and he is compelled to find his own apparatus and materials. Supposing that forty new students yearly enter, or even fifty, there are £120, or at most £150, for him, and no provision for the expensive apparatus which he is compelled to use. Let us not be told that he has an additional salary as clerk. The man who can lecture so ably, and scientifically, and satisfactorily, on the important subjects of Chemistry and Materia Medica, ought not to be compelled to degrade himself to the labours of a clerk, in order to eke out his scanty income. The increasing of the fee to 30 guineas or more, according to the number of lectures, would

better remunerate those who deserve it, and would keep away from the College many whose appearance and situation in life are no credit to it. A startling fact is stated by the memorialists, and the continuance of which must necessarily degrade our profession: "In no one of the public schools of medicine, to which a hospital is attached, is the scale of fees one-fourth part so low as at the Veterinary College."

The Memorial next adverts to the crying evil, that the pupil who has been educated by his parent to the knowledge and practice of the veterinary art, or who has served an apprenticeship to a veterinary practitioner, is placed precisely on the same level, and must stay at the College the same time, as the youth who comes to the institution perfectly ignorant of every thing belonging to our science. The memorialists propose that the uneducated youth shall be compelled to attend three years at the College, while the other shall be permitted to go up for his examination at the expiration of two years. They apply, and very properly, the same rule to the pupils of other schools. One subject has been omitted altogether,—the Examining Committee. We believe that we can state the reason of this, and one honourable to our friends. They recollect the time when the College was principally dependent on the patronage of these gentlemen for its very existence. In the infant state of the school, the attachment of the names of such men to the veterinary diploma conferred a degree of respectability on the individual and on the profession, which could have been obtained by no other means. They think that there would be an appearance of ingratitude, which they can never feel, in dismissing such men from the Examiners' Board. On the other hand, having heard from some of these gentlemen the most flattering opinion of the progress of the veterinary profession; and being aware of the fact, that one of the examiners, since the death of Mr. Coleman, has already withdrawn himself from the board, avowedly from a deep feeling that veterinary surgeons are now fully capable of examining the candidates for a veterinary diploma—they are assured that, *at the instigation of the Medical Examiners*, some change will shortly be effected in the Examiners' Committee, by which the honour of the profession will be maintained, and no disrespect offered to those to whom, after all, we are much indebted.

We think that such were the mental cogitations of our friend, and every practitioner will participate in such feeling.

We will write no more than to express our most cordial approbation of the course which our friends are pursuing, and our conviction that the great majority of our profession will sign the Memorial. The name of Mayer will be added to the list of those who have done our profession service, and our children's children will have to thank them.

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## EXPERIMENTS ON DIGESTION.

*By Professors TIEDEMANN and GMELIN, of the University of Heidelberg.*

WE eagerly turn to the simple but profound disquisitions of these eminent physiologists.

### THE BILE, AND LIGATURE OF THE DUCTUS CHOLEDOCHUS.

The action of the bile on the aliments that have been dissolved in the stomach, and passed into the intestinal canal, is one of the most obscure points in the history of digestion. The theories which physiologists have endeavoured to establish on this subject are purely hypothetical; and the greater part of them fail entirely in all proof furnished by experiment and observation. We range in this number.

1. The opinion of Boerhaave, who maintained that the bile, in virtue of its alkaline nature, moderated, or neutralized the acidity of the gastric juice.

2. That of Haller, who believed that the bile exercised a solvent action on the aliment, and formed a kind of emulsion with the fatty particles which it contained.

3. That of Englefield Smith, who laboured hard to prove that the bile penetrated into the stomach, and contributed to the digestion of the food.

4. That of Autenreith, Werner, and almost all the modern physiologists, who maintain that the bile effects the precipitation of the chyle, by combining with the acid of the gastric juice.

5. That of Prout, who considers the bile as concurring by its mixture with the chyme—the union of the alkali of the bile with the acid of the stomach—to cause the development of those albuminous principles which constitute the chyle.

Brodie has lately made several ingenious experiments with a

view to the clearing up of this point. After having tied the ductus choledochus in some young cats, he destroyed them at different periods after the operation; and then examined the state of the aliments in the stomach and intestines, and particularly the nature of the fluid contained in the lymphatic vessels of the small intestines and in the thoracic duct. He found no change in the digestion of the aliment in the stomach; but when the bile could no longer flow into the intestinal canal, the chyle ceased to be formed at the expense of the chyme—in fact, there was no chyliform fluid either in the lymphatics, or the small intestine, or the thoracic duct. He concluded from this that the bile was necessary to the formation of the chyle.

Anxious to know the result of a mechanical obstacle to the flowing of the bile into the intestinal canal, and to examine for ourselves the conclusions of Brodie, we have instituted a series of experiments on living animals; but we have preferred the dog, on account of his more patient endurance of pain, and consequently the more easy and perfect accomplishment of our object.

After different unsuccessful attempts, we adopted the following method of tying the ductus choledochus, as the simplest and the surest.

We selected for our experiments strong and healthy dogs, not overburdened with fat, and who had not been fed during the seven preceding hours. They were laid on their backs, and well secured by cords, as well as held by assistants. The hair was shaven from the region comprised between the umbilicus and the abdominal extremity of the sternum. The operator, standing on the right of the animal, effected an incision, about an inch and a half in length, on the linea alba, and penetrating to the peritoneum. He then cut through this membrane with considerable caution, and introduced his finger into the wound—searched for the anterior surface of the stomach—followed it as far as the pylorus, which was easily recognized, and thus reached the duodenum. This intestine in the dog, not being, as in man, covered by a transverse portion of the colon, was easily secured by the bent finger, and thus drawn outward. He then turned it so that its convex border was directed towards the left side of the animal, after which he searched for the ductus choledochus, which appeared through the superior folding of the mesentery, in the form of a whitish cord.

If the dog was fat, this duct was sometimes so covered with the adipose matter of the mesentery, that there was considerable difficulty in finding it, and it was scarcely possible to get at it without wounding some of the bloodvessels. This circumstance sometimes prevented us from completing our operation: but, otherwise, having effected a small incision through the superior fold of the me-

sentery, in the direction of the ductus choledochus, a ligature was passed round it by means of a crochet, or an ordinary curved needle.

In order to be certain that the ductus choledochus is actually secured, it is necessary to observe the following precaution. The ligature must be tied at the distance of two or three lines from the duodenum, at most, for otherwise there would be risk of not obliterating a small hepatic duct, which, in the dog, connects itself with the ductus choledochus, before the formation of the latter by the cystic and hepatic ducts, properly speaking. In the early period of our experiments, we twice omitted to tie this little canal, because we had applied our ligature too far from the duodenum.

Having fixed our ligature around the duct by means of a double knot firmly tied, we sometimes cut it close to the knot, and, at other times, we left it hanging out of the wound in the linea alba. In some cases we totally separated the duct from the duodenum, by cutting it below the ligature.

The intestine being replaced in the abdominal cavity, we closed the wound by a suture comprising the skin and the abdominal muscles. By this proceeding we prevented the formation of ventral hernia.

The Professors now proceed to give a detailed account of their experiments on eleven dogs, four of whom died in consequence of the operation, and the others were destroyed at periods varying from three days to as many weeks after the operation. We will not follow them through the lengthened tale of horrible suffering which they relate, but content ourselves with giving an account of the result of the experiments.

*A. Phenomena manifested after the ligature of the duct.*—1. A little while after the operation all the dogs shewed a disposition to be sick, or actually were so. This was evidently the consequence of the irritation produced by the ligature on the ductus choledochus and its nerves being propagated to the stomach. It was not rare to see this vomiting, or disposition to vomit, continue during several days, as well by reason of the inflammation which was produced by the operation, as that which was the result of the continuance of the vomiting.

2. If, as was generally the case, the animals had not eaten for a short time before the operation, that which was vomited consisted of a fluid clear as water, or only a little turbid, and that turbidity bordering on a yellow colour, and mixed with a frothy mucus. This fluid was ordinarily acid. We twice found some acetic acid in it, and, once, the hydrochloric acid. When the vomiting was prolonged during several days after the operation, the aliments that were rejected were more or less softened and dissolved. They

had an acid smell, and they strongly reddened the tincture of turn-sol.

3. A diminution of appetite and great thirst—the indubitable effects of inflammation—manifested themselves in a few days after the operation.

4. On the second or third day, the conjunctiva became of a yellow colour.

5. The urine, which was discharged in abundance, was of a yellow colour, and stained the linen on which it fell with the same colour. This phenomenon depended on the colouring principle of the bile which was found to be contained in it, and the presence of which we demonstrated by chemical analysis.

6. The alvine dejections become more rare after the second or third day, and were of a white-grey colour, argillaceous, and of considerable consistence. A peculiar and exceedingly disagreeable odour was exhaled from them.

7. The symptoms of jaundice disappeared at different times, in different dogs, after ten days in one, but not until after fifteen days in another. The excrement recovered its usual colour, the urine its ordinary tint, and the conjunctiva its primitive whiteness. The passage through the ductus choledochus was restored in these animals, agreeably to some of the experiments of Brodie.

*B. Post-mortem examination of the dogs that died, or were killed after the ligature of the ductus choledochus.*—This presented the following results:—

1. During the greater part of the time the peritoneum was highly inflamed, or there were traces of recent and great inflammation. Here and there, and especially in the neighbourhood of the duodenum and the liver, were effusions of coagulable lymph, and the viscera of the lower part of the abdomen were agglutinated together in consequence of adhesive inflammation. There was frequently effused into the abdominal cavity a considerable quantity of turbid yellow-coloured fluid.

2. The liver had become more voluminous than in its natural state—it was of a deep red-colour, gorged with blood, and was beginning to be softened.

3. There was always much coagulable lymph surrounding the ductus choledochus, whether it had been tied or cut. In proportion to the degree in which the ligature had been detached was the quantity of coagulable lymph. It is extraordinary that the continuity of the divided ductus choledochus was perfectly established in some cases. Brodie had observed the same thing. In consequence of this, the bile had pursued its usual course into the duodenum. This circumstance may, perhaps, be easily explained. The lymph effused in consequence of the inflammation superven-



ing on the operation had principally been deposited around the ligature, and had established the continuity interrupted by the ligature, or even by the section of the duct. After the separation of the ligature, this lymphatic exudation became more firm and formed a new canal through which the bile could pass from the hepatic trunk of the ductus choledochus into the intestinal trunk, and thus reach the duodenum. In some cases the ligature was found embedded in the centre of the effused lymph. The ductus choledochus has been found to be completely re-established at the 26th day, on the 20th, and even the 13th after the operation. In one dog the ligature became untied, and the bile was effused into the abdominal cavity.

4. The gall-bladder and the biliary ducts were distended and gorged with bile. It was always of a deep yellow or brownish-green colour, and was mucous and adhesive.

5. The bile was reabsorbed in the biliary passages. That which demonstrates this is, that we not only see the vessels of the liver filled with a deep yellow fluid, and the glands on which they abut being entirely yellow, but we find the principal constituents of the bile even in the liquid which dyes with yellow the thoracic canal. Thus we find confirmed the reabsorption of bile by the lymphatic vessels, which Peyer and Reverhorst had already observed, and Cruikshank, Mescagni, Soemmering, and Saunders, had reported as a fact. Thus also we find refuted the opinion of a modern physiologist, who denied the absorption of bile by means of the lymphatic vessels.

6. The bile was recognized in the blood, and its colouring principle was found also in the urine.

7. The serous membranes, the peritoneum, the pericardium, the pleura, and even the arachnoid membrane, were of a yellow colour; as were the cellular tissues generally, the adipose membrane, and even the parietes of the arteries and veins.

8. *The state of the stomach and its contents.*

*A. In those that were fasting.*—One dog died of violent inflammation of the peritoneum seven days after the operation. The stomach contained a turbid aqueous fluid of a reddish-grey colour, and which reddened very slightly the tincture of turnsol. Another died three days after the operation. His stomach contained an aqueous fluid, mixed with some mucous flocculi, and which strongly reddened the turnsol. The stomach of another dog, killed four days after the operation, presented a little colourless fluid, mixed with mucus, and which also strongly reddened the turnsol.

*B. In dogs that had fed after the operation.*—In one that had eaten some roast pork, the outside of the food was softened, and the

stomach contained a greyish chyme, which strongly reddened the turnsol. The stomach of another to whom some cooked beef and spelt-bread and plenty of milk were given, and who died three hours and a half after the operation, was filled with softened morsels of meat and bread. When rubbed, a sort of *bouillie* proceeded from them. The milk was coagulated. A turbid fluid, produced by the dissolution of the food, reddened the tincture of turnsol.

As to the matters contained in the filtered fluid of the stomach, and of which chemical analysis indicated the presence, they were the same as were found in the stomachs of dogs that had not undergone this operation. 1. A free acid; 2. Albumen, but in a considerable quantity only in the stomach of a dog that had been fed on meat, and only in a small quantity, and scarcely to be detected, in others; 3. A matter precipitable by the chloruret of tin. In none did we find any matter precipitable by acids, and not at the same time precipitable by boiling. The salts obtained by incineration of the fluids of the stomach were much chloruretted, little sulphuretted, and no carburetted or phosphuretted alkalies, and also some phosphate and carbonate of lime.

It resulted from this, that the process of digestion in the stomach into which no bile could enter was the same as where the ductus choledochus had been tied. This conclusion perfectly accords with the result of the experiments of Brodie. We cannot, then, believe that the bile takes any direct part in the stomachic digestion, and we must reject as erroneous the opinions of those physiologists who maintain that a part of the bile ascends into the stomach, and is necessary to the completion of digestion.

#### 9. *The state of the small intestines.*

*A. In dogs that had fasted.*—The small intestine of the dog that died on the 7th day after the operation contained a liquid of a dirty yellow colour, with some portions of brown and grey mucus. The tincture of turnsol was a little reddened in the second division of the stomach, but it was not at all in the first. The contents of the small intestine of the dog who perished three days after the operation were of the same character, except that they had no action on the turnsol. In the dog that was killed, fasting, four days after the ligature, we found in the superior part of the small intestine a small quantity of thick mucus, and in the inferior portion a liquid *bouillie* of a white brown colour: neither the one nor the other had any action on the turnsol.

*B. In dogs that had eaten.*—The first half of the small intestine of the dog that had been fed on roast pork presented some grey mucous flocculi, which very feebly reddened the turnsol. The second half contained a firm, white, opaque, mucous *bouillie*,

that had no action on the turnsol. The upper portion of the small intestine of a dog that had been fed on bread and milk contained a white and frothy *bouillie*, which feebly reddened the turnsol. In the inferior portion was a small quantity of yellow liquid, with cylindrical masses of a clear brown colour. In a dog that had taken animal food there was a *bouillie* like starch, fœtid, and without any action on turnsol. In another dog that was fed in the same way there was the same *bouillie*, but it had already begun to assume a cylindrical form at the lower part, and did not redden the turnsol. The duodenum of the dog that was destroyed after being fed on spelt-bread, with cooked beef and milk, and in which we had not only tied the ductus choledochus, but had also separated it from the duodenum, there was a pale red fluid, with a great quantity of mucous flocculi, moderately large, white, and opaque. These flocculi perfectly resembled those which some physiologists have regarded as chyle precipitated from chyme by the action of the bile which mingled with the latter. The neighbouring portion of the small intestine presented a thick liquid, containing similar mucous flocculi, and the whole strongly reddened the tincture of turnsol. The inferior extremity of the small intestine contained a yellowish-brown and nearly transparent liquid, mingled with mucous flocculi and bubbles of air, which feebly reddened the turnsol. Not far from the insertion of the ileum into the cæcum, we found hardened excrement of a greyish-white colour, mucous, and having a peculiarly fœtid smell.

The matters found in the small intestines were, 1, Little, or, for the most part, no free acid. Where it existed, but still in a small portion, was in dogs that were fed on bread and milk with a little water. 2, A great quantity of albumen, the presence of which prevented us from recognizing whether there existed any caseous matter, or matter precipitable by the chloruret of tin. 3, A matter that was coloured red by the chlorine, and which was found in the two dogs referred to in No. 1, and in another that likewise was fed on bread and meat; but no portion of it having reached the small intestine, it is impossible to attribute the red colour of the intestinal fluid, produced by the chlorine, to any mixture of it with bile. 4, A sebaceous matter extracted by alcohol, and an acid similar to the margaric, substances that might proceed from the fatty matters which were given to some of the dogs. 5, Finally, the salts obtained by the incineration of the filtered liquors were, a great quantity of the carburetted, phosphuretted, and chloruretted alkalies, very little of any sulphuretted alkali, and some calcareous salts that were not examined.

It results from this, that the contents of the small intestines, except in the absence of the principal constituents of bile, did not

differ essentially from those which we found in dogs the ductus choledochus of which had not been tied. We must, then, reject as erroneous the opinion of Prout, who contends that the albumen forms itself only in the small intestine in consequence of the action which the bile exercises upon the chyle, since there existed a considerable quantity of it in these dogs. We cannot more readily coincide with the opinion of Brodie, who maintains that the bile is indispensable in the formation of chyle. Finally, we must reject the opinions of those physiologists who maintain that the mixture of the bile with the chyme determines the precipitation of the white chyle; for we have found white mucous flocculi, which have been wrongly regarded as chyle, in dogs in which we have not only tied the ductus choledochus, but, in some cases, have entirely separated it from the duodenum.

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## ON PUERPERAL FEVER.

*By Mr. Cox, Leek.*

PUERPERAL fever, or dropping after calving, in cows has occupied the attention of many of the contributors to your Journal for the last three years, and scarcely have any two agreed with regard to this frequent and fatal malady. As I possess somewhat different views respecting the cause of this complaint from any thing I have seen written on the subject, I have sent you the following remarks, with a case subjoined:—First, I will state what my opinion was before the appearance of Mr. Friend's excellent paper in your March Number for 1836. I always told my employers that its origin was in the blood; that it was a species of plethora, which caused an overflow of milk. The udder and secretory vessels not being not able to take up the influx, a determination of blood to the other parts, to the head, loins, &c., was the consequence; and hence arose the inability to stand, delirium, &c.

My own experience goes to this extent: First, That it never happens to young cows, for in them the udder and secretory vessels are capable of enlargement.

Secondly, It never happens to a bad milker.

Thirdly, It never follows abortion.

Fourthly, If a cow is milked some time previous to calving, she is freed from this disease.

Fifthly, Milk beginning to spring is one of the first symptoms of recovery.

Sixthly, It happens to the poor cow as well as the fat one; but in such somewhat of the forcing system has been going on for

some time previous to calving, in order to prepare her for future milking.

I must own that I became a convert to Mr. Friend's theory; namely, that it is a disease of the nervous system. In all cases where the cow is down, the nerves of voluntary motion are paralyzed, and sometimes the organic motor nerves must have been involved in those cases of sudden death which we occasionally have the mortification to witness.

I cannot, however, abandon my former opinion as to the cause of this complaint.

The following case may throw some light on this subject:—On the 11th of June last I accidentally called at Mr. Bailey's, of Endon Mill, near this place. He told me that he had a cow that had calved the day before, but she did not begin to spring her milk as heretofore, and he thought that she was feverish. A pound of Epsom salts had been given, with four ounces of treacle.

On examination I found the pulse 75, and rather strong, and the mouth and breath were very hot. I was told that she had dunged and urined as usual, but had eaten very little. I had her brought out, but found no weakness, nor any sign of palsy, although I gave it as my opinion that she would soon be down: the owner said he would wait for the effect of the salts before any thing else was given.

Seven hours afterwards I was sent for in great haste. I found the cow down and unable to rise, dashing her head about, stretching out her legs, and moaning most piteously: the pulse was 70, and not so strong as before.

I abstracted seven pounds of blood, and administered Epsom salts ℥xij, powdered ginger ℥j, caraway powder ℥j, spts. nit. eth. ℥ij, linseed oil ℔j, and ol. crot. ten drops. I stimulated her loins and back with oil of turpentine, and left Epsom salts ℥viiij, ginger ℥ss, caraway ℥ss, and cantharid. five gr. to be given every eight hours.

12th.—Every symptom worse. I gave her half a pint of brandy, which very soon afforded relief. I also continued aromatic and purgative medicine.

13th.—Better. She has passed a large quantity of water, and there is a little more milk in her teats. Continue the medicine.

14th.—She got up this morning at eight o'clock, and began eating a little hay. Her bowels continue constipated, no dung having passed since calving. I gave her goose oil ℥iiij, and brandy ℥iiij. She began purging at eight o'clock P.M., and soon after this yielded her usual quantity of milk. This cow, in all, had Epsom salts ℔iiijss, ol. lini. ℔j, ol. crot. ten drops, goose oil ℥iiij, spts. nit. eth. ℥iiij, pulv. ginger ℥iiij, pulv. carui ℥iiij, canthar. twenty gr., and three quarters of a pint of the best brandy.

I have sent you this case, first, because I had an opportunity of seeing that fever did exist before she became paralyzed; and, secondly, on account of her rising before the physic had operated.

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[Mr. Cox is one of the old school; but there is so much sterling good sense and candour in what he says, that we cheerfully give insertion to his letter.--Y.]

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## DESCRIPTION OF A SINGULAR HYDROCEPHALIC FOAL.

*By Mr. F. FULLER, March, Cambridgeshire.*

ABOUT a week since I was sent for to attend a hackney mare, that could not foal without assistance. On examination, I found it was an unnatural presentation, the head being turned upon the left side, and the foal dead. I found, after a long trial, that I could not gain the head, and therefore determined to separate it, with the neck, from the trunk, close to the shoulders, (that being the most convenient place): the trunk was then extracted with ease. I next proceeded to remove the head and neck, which was attended with much difficulty, from the unnatural size of the head. The frontal and parietal bones were strangely elevated, giving to that portion of the head more the appearance of that of a hydrocephalous infant than of a foal.

I examined the contents of the cranium by means of the fontanelles, which were five in number. There was nothing particular about the dura mater; but the vessels of the pia mater were very much distended, the cerebrum had lost its convoluted appearance, and was nothing more than a pulpy bag, which contained upwards of three pints of aqueous fluid. The longitudinal sinus and falx major were considerably out of their natural course, the left hemisphere being much the largest. The cerebellum had lost its firmness, and was much diminished in size.

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## THE OCCASIONAL SITUATION OF AN UNGRADUATED VETERINARIAN.

[We received this letter in November 1839, and deep was our sympathy with the writer. Our answer was necessarily unsatisfactory; for it hinged on the means which he had at disposal. He came up to town. He reconnoitred his probable situation, and he went back overwhelmed with despair. Where he now is we know not; but while we commiserate we honour him, and hope that his object may yet be accomplished.]



MANY times I have thought of writing to you on the subject which is the drift of the present letter ; but from some cause or other I have been deterred up to the present time. I certainly take encouragement from your past kindness in addressing this note to you. The few letters which I wrote in times past you kindly favoured me with the insertion of in the veterinary journal, for which I confess I am greatly obliged to you. I should have written more frequently if I could only have persuaded myself that I was capable of reflecting one ray of light on veterinary science ; but being only a kind of smatterer in anatomy and physiology, I felt timid and reluctant to express my ideas on any abstruse or theoretical topic. I am not a *certified veterinary surgeon*, which I for some time past have determined to be, or not to practice at all. This is the millstone about my neck—this is the source of a thousand heart-achs. Although I can and did treat the diseases of horses and cattle as judiciously and scientifically as any of the numerous practitioners in a circuit of many miles, yet in the estimation of those whom I would fain call my brethren, and in my own estimation too, I am little, if any thing, above an empiric. This feeling became so deep as to cause me, about nine months ago, to cease practising altogether. Prior to this period, and for some years, I fought lion-like with many of my competitors, and laboured hard to maintain my ground against them. Perhaps I thought that my principles of practice and mode of proceeding were as judicious as any of theirs, for theirs consisted, and yet consist, chiefly in torture and cruelty ; while I was ever guided by a deep feeling of the duties of humanity. But a question like the following being again and again put to me, “ Have you been at the Veterinary College ? ” forced me now and then to relinquish the combat, and precipitately to retreat from the field of battle. Not that I was incapable of wielding the weapons of controversy when opposed to such men ; but that I had no central point whence to direct my attack, or on which occasionally to retreat. I found the main *hold-fast* wanting, viz. a diploma.

Perhaps I have no claim thus to occupy your valuable time. I shall, therefore, proceed at once to the points on which I am anxious to obtain information. What length of time should I be required to remain at the College, and what would the expenses probably amount to ?

I am afraid my chance will be a poor one ; but believe me, Sir, if I do not pay you a visit, it will be on account of not having a sufficiency of money. I have maintained myself and family by practising and keeping a retail drug-shop hitherto ; but now I have declined both. I am thirty-two years of age, and have been married ; but my wife dying, and various other cross events occurring,

I am not in so good circumstances as I should otherwise have been. This is the source whence all my doubts take their rise. I hope that you will thus far continue to manifest your wonted kindness by answering this letter in a private note, by return of post, as soon as you can: by so doing, you will greatly oblige me.

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## REVIEW.

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ILLUSTRATIONS OF THE BREEDS OF THE DOMESTIC ANIMALS OF THE BRITISH ISLANDS. *By* DAVID LOW, *Esq.*, *Professor of Agriculture in the University of Edinburgh, &c. &c.* Part I. Price one guinea.

THE first number of this noble work was published on the 1st of February. It is devoted to a collection of portraits of the best specimens of the various breeds of the British Domestic Animals. It is comparatively easy to give a verbal description of the characteristic points of certain breeds; but it is difficult for the scientific and it is impossible for the unscientific man, to collect into one view every peculiar distinguishing and indispensable point, and to place the animal, as it were, bodily before him. He must see him as he is, with all his excellencies, and still with a few defects, ere he can form an accurate and useful judgment of him. Hence it is that he must live among cattle who will become a judge of them; and, to the connoisseur, a quarter of an hour's study of the conformation of the animal itself will be worth a thousand verbal although accurate descriptions of him.

It was a deep impression of this that prompted the wish to add to the noble Agricultural Museum at Edinburgh a complete collection of paintings, illustrative of the various races of our domestic animals. A grant was obtained from a public fund in Scotland for this purpose, and Mr. Shiels, well known for the extraordinary and perfect truth with which his sketches of animals were executed, was employed at the commencement of this national undertaking. The writer of this review has had many an opportunity of standing by the limner while he was engaged in his undertaking, and admiring the fidelity with which the general and the distinguishing features of each animal were seized and portrayed. This gallery is already become one of the most attractive objects in the University, or in the whole city, and the study of it will never be neglected by those who have the opportunity of access to it.

The collection of portraits having become somewhat numerous, Mr. Nicholson, R.S.A., has been employed in taking coloured drawings of them. These copies are exceedingly accurate, and do him much credit. From these drawings others have been taken on stone, and four or six of them will enrich every number of this work.

Professor Low, who has so long and so creditably presided over the agricultural department of the University of Edinburgh, and with whom, in point of fact, the establishment of a public Agricultural Museum originated, is now engaged in perfecting the work, by giving what he terms "Descriptive Memoirs" of the different breeds of cattle delineated in these pages. No man had a higher claim to the execution of this task, and few would have executed it so faithfully and so well.

May the writer of this little sketch be permitted to express his hope that the time is not far distant when the southern metropolis may be permitted to boast of as noble a university and as splendid an agricultural museum as that which the northern one contains. The English Agricultural Society, continuing to repudiate all considerations of party politics, and devoting themselves exclusively to the improvement of the cattle and the soil of their country, will, ere long, be incited to commence and to complete an undertaking, in the promotion of which every good heart would rejoice, and which would ultimately become the boast and the blessing of the British farmer.

The first portrait in the present number of our work is that of a cow of *the wild and white forest breed*, those which the ancient Britons, when they retired beyond the Severn, preserved from the Romans, and of whom mention is made in various periods of Cambrian history. A few of them are preserved perfectly pure. This cow was bred at Haverford West. The breed possessed much beauty and was highly valued; but the practised eye will discover the points, both before and behind, which would render it far inferior to the cattle of the present day.

The second plate contains *the black Pembroke breed*. Portraits of a bull and cow are given, bred by Messrs. Ackland and Boulston. They are evidently a variety of the White Forest breed, but with many and valuable improvements, and they require only a better hind-quarter—although theirs is far superior to that of the White Foresters—to make them perfect of their kind. Their meat is beautifully marbled, they fatten kindly and almost everywhere, and they yield a fair quantity of milk.

The third and fourth are splendid plates, and present us with some beautiful portraits of *the West Highland breed*, belonging to the Messrs. Campbell, Colonel M'Niel, and Mr. Maxwell. They need no comment of ours.

We cordially recommend this work to our veterinary brethren. It will improve their acquaintance with the distinctive characters of the different breeds, and will constitute very appropriate and splendid ornaments of their parlours or portfolios. A number will be published every second month.

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## MISCELLANEA.

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### THE VETERAN FARRIER.

AN unusual but interesting scene, and honourable to all concerned in it, occurred in the barracks of the 4th Dragoon Guards. On the 1st of October, 1839, a handsome, massive silver cup, the gift of Colonel Chatterton and the other officers of the regiment, was presented to Farrier-Major Mitchell, on his retirement after a meritorious service of nearly 40 years. The regiment was formed into square, and the gallant colonel, addressing the farrier-major with much kind and good feeling, complimented him on the uniform excellence of his conduct, and put into his hands this pledge of the approbation of the whole corps. The cup bore the arms of the regiment on one side, and on the other a suitable inscription.

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### EXTENSIVE LOSS OF SHEEP BY EATING NEW CORN.

Last week several sheep on Willoughby Farm, Broomfield, were discovered in the morning dead, and many others in a dying state. Immediate recourse was had to a suitable remedy, but the flock continued falling under the mischief until forty-two died. It appears that by the carelessness of some persons not belonging to the farm, the gate of a recently cut wheat field had been left open, and the rakings not having been carried away, the sheep had got in and over-fed themselves; and having also broken into an adjoining field of barley, the excess of food thus obtained led to the serious loss sustained on the occasion. Several of the sheep were fat, and most of the ewes in lamb.—*Taunton Courier*.

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### GENTLEMEN WHO HAVE OBTAINED THEIR DIPLOMAS FROM THE ROYAL VETERINARY COLLEGE, LONDON.

*January 29th, 1840.*

Mr. W. H. Lillyman, Liverpool.

— Richard Walters, London.

— Edward Dycer, Dublin.

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ON DISEASES OF THE LUNGS IN HORSES.

By WM. PERCIVALL, *Esq., M.R.C.S., and Veterinary Surgeon  
to the 1st Regiment of Life Guards.*

[Continued from p. 120.]

AUSCULTATION.

AUSCULTATION—from *auscultare*, to listen—consists in the perception, by the *mediate* or *immediate* application of the ear, of the different sounds manifested in the lungs, with a view of determining the normal or anormal condition of those organs, and, in the latter case, of aiding our opinion on their diseases.

MEDIATE AUSCULTATION is effected through the medium of the stethoscope; *immediate*, through the direct application of the ear to the air-tube, or to the walls of the cavity of the chest. We prefer immediate to mediate auscultation for the following reasons:—1st, It is extremely inconvenient to apply; 2dly, Supposing however, this were not the case, the stethoscope possessing no power of augmenting the sound, but only being the means of conveying it more directly to the ear, no advantage attends the use of the instrument; 3dly, In human medicine the application of the ear would prove objectionable both to surgeon and patient, hence the adoption of the stethoscope: this is not our case.

IMMEDIATE AUSCULTATION.—During examination the animal should be kept quiet: his attention may be engaged by a little hay or corn. During the silence of the night is the auscultator's best time. The ear should be lightly and accurately applied. After all, should the sound remain indistinct, the respiration may be increased by exercise. The nasal cavities, the larynx, the trachea, and the lungs, are the parts to be auscultated; and the modifications of the healthy sounds must be well studied in order not to confound them with such as arise under disease.

THE RESPIRATORY MURMUR is the sound heard within the parenchyma of the lungs during the entry and exit of the air, or rather at the time of their dilatation and contraction. The sound is difficult to describe: once heard, however, in a young well-bred lean horse, it is not likely to be forgotten: by exertion it may be rendered still more characteristic. In a state of health even, it will be found to vary with age, condition, temperament and breeding. In the young it is strongest. In human practice, its intense sound in infants is designated *puerile respiration*. Leblanc proposes in young animals to call it *juvenile*. In the aged it is hardly perceptible. The disposition of the pulmonary air-cells in the young, adult, and old animals, as shewn by Majendie,

admits of satisfactory explication of these modifications. If in young animals the air-cells are more numerous and smaller, the sound ought to be stronger, from its entering into more places and through more circuitous routes. If, on the contrary, as in the old, the air-cells are larger and less numerous, there must be less dilatation, and more free passage of air, and consequently less sound. Laennec's explanation is different from this. He supposes the air-cells not to be capable of equal expansion in the adult animal from their sides becoming hard. The feeble murmur heard in pulmonary emphysema, wherein the air-cells are dilated or distended, favours our view of the question. In fat animals, cart-horses especially, and such as are of a lymphatic temperament, whose chests are covered with thick skins and abundance of cellular substance, the respiratory murmur is scarcely perceptible. In these cases, one must have recourse to exertion. Drs. Chomel and Beau, the last in particular, have a notion that the murmur is produced by the reflection of the shock the column of air receives against the fauces or glottis, back into the ramifications of the bronchia. But how can such a theory explain the supplementary murmur in one lung when the other is hepatized, unless it be by a sound more vesicular—stronger—in the healthy lung; and in the superior part of the lung when the inferior is no longer permeable to air. Besides, if tracheotomy is performed, and afterwards the nostrils sewn up, the murmur is still heard, although the animal is respiring through an aperture below the place where, according to M. Beau, the collision happens which produces the sound in question. The respiratory murmur will be found to vary according to the region of the chest auscultated. In the middle region it is heard distinctly behind the shoulder, increasing a little thence to the ninth rib, afterwards gradually decreasing to the last. Along the superior region the sound is quite distinct, as well as below and behind the cartilage of the scapula—behind a mass of fat lodged there in fat subjects. At this place we have invariably found the murmur louder than elsewhere, and we ascribe this to the passage of the air through the larger divisions of the bronchia, they being situated hereabouts: to it we give the name of *bronchial respiration*; making a distinction between it and the murmur. Along the inferior region, the respiratory murmur again becomes distinct enough from behind the elbow to the ninth rib; whence it diminishes to the seventeenth, and is there lost. The sound is the same on both sides, with the exception of the place on the left side which receives the heart's pulsation. We must take care not to confound the slight crepitating noise occasioned by the subcutaneous cellular tissue—which is called the *dry crepitous r le*—with the murmur. We must also distinguish the sounds of the bowels, which are characterized by their travelling about from place to place.

**MORBID SOUNDS.**—Disease modifies the healthy sound in such a manner that the murmur may become *diminished, extinct, augmented, attended* or *superseceded* by other sounds.

**DIMINISHED MURMUR.**—*Accumulated mucus* within the large bronchia—as in bronchitis—may temporarily lessen the murmur, though it returns after expectoration. *Capillary congestion* within the parenchyma, before the onset of inflammation, equally occasions a considerable diminution of the respiratory murmur, speedily succeeded by the crepitous r le, should the inflammation continue. The diminution may be partial or general: rarely the latter. Acute enteritis and peritonitis, and in general all violent abdominal pains accompanied with a short quick respiration, occasion a notable diminution of the murmur. The same remark applies to all maladies about to end in death.

**ABSENCE OF MURMUR** is owing, in certain conditions of the lungs, to the non-penetration of air into the air-cells. This may be the result, 1st, of effusion into the parenchyma; 2dly, of induration; 3dly, of the presence and



development of tubercles or other accidental productions ; 4thly, of displacement and compression of the lungs by fluid effused into the chest. The loss of sound may be partial or general : it will return on the air-cells becoming permeable again.

**AUGMENTATION OF MURMUR** will accrue from accelerated respiration after exercise. Should this happen during rest, it is likely to result from dilatation of the heart or large vessels ; in which case the sound is loud, and is heard throughout the lungs. Should the sound be louder in one lung alone, or in places only of both lungs, it is owing to a morbid state of lungs ; it being in the latter case in general referrible to non-permeability of certain parts of the organ. In such a case as this, it is probable that the healthy portions of lung in some measure compensate for the diseased parts, in admitting a larger quantity of air. For example, should the left lung become hepatized, the murmur in the right will become augmented ; the same as partial hepatizations will cause an increase in the surrounding healthy parts of the same lobe. In all cases, this augmented sound takes the name of *supplementary respiration*. Again, the breathing becomes supplementary, and to a remarkable degree, along the superior regions of the ribs, in pleurisy affecting either both sides or one only, followed by effusion, at the time that the lung, still permeable, becomes pressed by the fluid into the upper parts of the chest.

**RALES OR RATTLES** is the name given by Laennec to such unnatural sounds as may attend the entry or exit of air within the air-passages. This term, which has been restricted in its signification to the noise heard in the wind-pipe just before death, must here be considered to apply in a general way to every anormal respiratory sound. In respect to the places whence proceed these pathological pectoral sounds, they have been classed as follows :—

Bronchial Sounds .....	{ Humid or Mucous Râle
	{ Dry Râle
	{ Bronchial Respiration.
Pulmonary Sounds .....	{ Crepitous Râle, humid or dry
	{ Sibilous Râle
	{ Cavernous Respiration.
Pleural Sounds.....	{ Guggling or gurgling Sound
	{ Rumbling or grumbling Sound.

**THE MUCOUS RALE** issues principally from the bronchial tubes. It may be compared in sound to the bursting of bubbles of air caused by blowing through a pipe into soapy water. It is occasioned by the presence of mucus or other fluid. Its existence will be temporary or permanent, according as the mucus or fluids continue or not within the tubes : sometimes it becomes converted into the sibilous râle. Cough excited by compression of the throat, by occasioning the expectoration or displacement of the mucus, sometimes extinguishes these sounds ; at other times it creates them. Frequently an accumulation of mucus within one large or several small divisions of the bronchia will cause suspension of the respiratory murmur in the interior of the lung, leading one to believe the lung is hepatized ; one only need trot the horse, however, to dissipate any doubts of this kind. According as the air meets with resistance from the density of the secretions will the bubbles thereby created be large or small. Large bubbles ordinarily occasion a noise like the crackling of a pump-sucker falling after it has been raised. The same sound often accompanies the sibilous râle. It is observable in catarrhal bronchitis, when plastic mucosities abound. This sound is heard most distinctly behind the shoulder, opposite the large divisions of the bronchia : at times it is audible even at the termination of the windpipe.

**THE MUCOUS RALE WITH LARGE BUBBLES** becomes perceptible in simple

bronchitis and in the second stage of broncho-pneumony. It is also created by the effusion of fluid into the bronchia in consequence of destruction of the cartilaginous rings, either from mortification or the bursting of vomicæ or abscess into the pipe, in which latter case the râle becomes *cavernous*. *Small bubbles* are formed when the fluid possesses but little viscosity, or becomes frothy, as in hæmoptisis, and the râle resembles the sound of frothing of beer in a large glass. Leblanc has given it the name of the *spumous râle*.

THE DRY RALE is a sound extremely variable in its nature, being at one time engendered within the bronchia, at another, but the reverberation of a sound originating within the pulmonary tissue. It is comparable to a growling bass tone, mingled with deep supplementary respiration. This râle, always denotive of dryness of the bronchia, is especially manifested at the commencement of acute bronchitis: its duration is always very short. By some the *sibilous râle* is classed among bronchial sounds: in our opinion it more properly belongs to the pulmonary sounds.

BRONCHIAL RESPIRATION is the loud dry sound emitted by the air within the bronchial tubes at such times as some obstacle prevents its free passage into the air-cells. The sound resembles that produced by a rush of air through a tube of tolerable dimension, or the noise of sawing, or such as is occasioned by the rubbing of two planks of wood one against the other. The detection of this sound is easy, and at the same time of importance, from its being indicative of alterations either in the lungs or pleura, tending to create obstruction in the vesicular tissue: there can be no doubt of its being occasioned by the rushing of the air in and out of the large bronchial tubes. It is less audible in expiration than in inspiration. In hepatization of the pulmonary texture, the bronchial sound is heard along the line of demarcation between the hepatized part and that which is only yet infiltrated. It becomes augmented as hepatization proceeds, diminished with its absorption.

In effusion into the chest, it is as soon as the fluid has reached the height of the lower third of the cavity, and, consequently, the inferior border of the lung, from being inundated, becomes impervious to air, that bronchial respiration is discovered. And especially in pleuro-pneumony, when the lung is hepatized and maintained in the fluid by false membranes, is the sound distinct. In the horse, both in recent and chronic effusions, the sound is ordinarily heard upon the same level at both sides; but in dogs and ruminants it is audible but on one side.

*Acute pleurisy* at its commencement is likewise characterized by bronchial respiration. In this case it is synchronous with the small and short inspiration, and catching of the breath, owing to the sharp twitching pains the animal feels every time he dilates his chest; and it is accompanied with a general confused sort of noise which renders its detection extremely difficult.

PULMONARY EMPHYSEMA, in the latter stages, is also denoted by bronchial respiration, the murmur being hardly or not at all perceptible. Audible in inspiration, but more so in expiration, it has been divided into *ascending* and *descending* sounds. Almost always it is accompanied by both crepitous and sibilous râles.

IN CONCLUSION.—Bronchial respiration being a constant unequivocal sign of important pathological alterations, it is that to which the practitioner should give his most special and undivided attention.

CREPITOUS RALE.—Lacnec has given this appellation to a sound which accompanies the respiratory murmur, and which he has compared to the crackling powdered salt makes when thrown upon some burning hot body, to the noise elicited by the inflation of a small dry bladder, or to that produced by the compression between the fingers of sound lung distended with air. It suffices to have heard it once not to confound it with the other râles; and be-

sides, this râle is audible in inspiration alone, which at once distinguishes it from bronchial respiration. The crepitous râle has two modifications, important to be distinguished : it may be *dry* or altogether like the crackling of the bladder, such as we have described, or such as is produced by the inflation and compression of the cellular membrane of horned cattle. This is called the *dry crepitous râle*, or crepitation. On occasions, however, the crepitous râle possesses a degree of softness or humidity which renders it comparable to the cracking of a bladder slightly moistened. This is less distinct than the former, and has received the name of the *humid crepitous râle*.

**THE DRY CREPITOUS RALE, OR CREPITATION**, is observable in interlobular emphysema of the lung, in partial gangrene, at least in the parts surrounding the latter, and often in the extremities of the posterior lobes as well.

**THE HUMID CREPITOUS RALE** is heard at the commencement of inflammation of the substance of the lungs. Should all murmur cease soon after, it is a sign of parenchymatous induration ; its return indicates the resolution of the induration ; and should murmur be heard around a part impenetrable to air, it denotes either resolution of the circumference of the indurated part, or that an arc of inflammation had been set up. In this last case the crepitous râle often continues ; in the former one, it ceases. This râle is likewise manifest in intense bronchitis accompanied with some slight parenchymatous inflammation : we have often produced it also in injecting an irritating fluid into the bronchia. It is a common occurrence for this râle to be indistinct ; when it is so, it becomes necessary only to momentarily excite the respiration to render it more audible. Should we be asked the question, how this râle is produced, and where ? we answer—without entering into any minute and useless explications—that its source is the minute divisions of the bronchia and the air-cells, and that its occasion is, doubtless, the difficulty experienced by the air in making its way through these small tubes to the air-cells ; added to which, it may in part arise from the distention of the cells.

**DRY SIBILOUS RALE, OR SIBILATION**.—We have already observed, in speaking of the dry and mucous râles, that these sounds were the result either of the collision of air with some obstacle in the bronchial tubes, or of its rapid expulsion out of the air-cells. The sibilous râle issues from the bottom of the air-cells, and constitutes a shrill, dry, hissing sound, more or less prolonged and permanent. This râle is heard in pulmonary emphysema, both vesicular and interlobular, with dilatation of the extreme bronchia ; and particularly during deep and distressful expiration. Its resonance through the bronchial tubes gives it strength and duration. At the entrance of the chest the râle becomes a grave sound, in the larynx and nasal cavities a shrill one ; and in the open air is audible enough at a distance from the animal. Its intensity, doubtless, depends upon the extent of enlargement the bronchial tubes undergo. Many beginners in auscultation are apt, in large animals, to confound this râle with the nasal, laryngeal, or bronchial sibilation : careful exploration of the chest will prevent this mistake ; inasmuch as the sound will always be found to be accompanied by the dry crepitous râle, by bronchial respiration of a very loud character, and by catching of the breath.

**CAVERNOUS RALE**.—This râle, as is indicated by its name, can only proceed from some abnormal cavity or cavern within the substance of the lung, communicating with the bronchial tubes, and admitting air from them : this last condition being indispensable. Should the cavern contain any fluid, the air passing through it occasions gurgling or more or less ebullition, comparable to the noise produced by a current of air through a tube into a fluid in a vessel, from which it can only escape in part.

This *rumbling*, which itself constitutes the *cavernous râle*, is the more distinctly audible the more capacious the cavern is, and the nearer it is si-

tuated to the ribs. It is often accompanied by mucous and sibilous râles. When the fluid contained in the cavern comes to flow into the bronchia, and thence to be expelled by expectoration, the air, in passing into this cavity, ordinarily terminated by a cul-de-sac, should the cavity be near the ribs, gives to the ear an inordinately loud sound, called *cavernous respiration*. When the cavernous râle follows upon circumscribed absence of the respiratory murmur, it becomes the sign of distinction between the bronchial and parenchymatous structures under disease in that situation: this indication, in combination with such as are furnished by the discharges from the nose, and the air expired, may enable us to form some idea of the disease that has occasioned the cavern. One observation we would make here, to prove the importance of immediate auscultation, and that is, when the expired air is impregnated with the odour characteristic of gangrene, and the cavernous râle is distinct and circumscribed, we may affirm, during life, that such a lobe of the lungs is, in this part, the seat of an anormal cavity resulting from mortification. This râle is also one of the best indications we possess of morbid alterations in the lungs of our domestic animals.

**PLEURAL SOUNDS.**—When fluid becomes effused into the pleural sacs, we directly imagine that it will discover itself by a rumbling, or by undulation, during inspiration and expiration: observation, however, proves that this is not always the case—that, in fact, these signs become manifest only in certain states, as will be seen hereafter. We find an exposition of these symptoms in a case of hydrothorax published by M. Massot, which he recovered by tapping. “When the ear is applied,” says he, “beneath the sternum, a dull, confused, drawling sound is heard, something similar to the noise made by rolling a cask containing liquid.” This observation is confirmed by M. Dandrieu in a case of carditis, with water in the pericardium, in a cow, narrated by him in the “*Recueil de Médecine Vétérinaire*,” vol. iii, p. 488. “I applied,” observes M. Dandrieu, “my ear against the left side of the thorax, and I heard a slight confused noise, which I presumed to be caused by a fluid already partly effused into the cavity of the pleura, and, perhaps, even into the pericardium.” M. Leblanc seems to confirm both these accounts, when he says, in speaking of pleural sounds, that “at one time, kinds of grumbling (as of the bowels) are heard; at another, spumous sounds, if I may so express myself; at a third time, a rumbling sound: the first and last are ordinarily heard towards the lower part of the chest, supposing effusion to have taken place.”

Experience has convinced me that the presence of fluid cannot with certainty be made out by these signs, except under two circumstances:—1st, when false membranes have been recently formed; 2dly, whenever gas becomes mingled with the fluid: whether it be generated by the fluid itself, be exhaled by the pleura, or get accidental admission into the cavity, the result is, that agitation produces froth, and then the spumous râle, combined with rumbling, becomes audible at the bottom of the thorax, and the less the quantity of fluid, the louder the noise. Should there exist both fluid and false membranes, the sound becomes modified, approaching to rumbling, or rather to the guggling sound of a bottle emptying itself while its neck is full, but much more feeble. This noise has always appeared to us to ensue whenever, with the effusion, there were present false membranes which had so formed or arranged themselves as to have small *areolæ*, or cavities of various capacities, into which the fluid entered during the act of respiration. In every case of hydrothorax without false membranes, and the presence of gas in the cavity, that has come under our observation, even when the like was produced by the injection of warm water into the chest, with the precaution to suffer the admission of as little air as possible, *we have on no occasion heard any sound produced by*

*the fluid.* Moreover, it has long been an established fact in human medicine, that no sense of fluctuation, either by succussion or by auscultation, is detectable, except when gaseous fluid is mingled with the liquid effused: a case, be it remarked, extremely rare.

Such are the sounds afforded by the respiratory organs in horses: those of men furnish still more on account of the voice, which the surgeon having the perfect command of, manages to render of the greatest service. The sounds denominated *broncophony*, *egophony*, and *pectriloquy*, are all productions of the voice under various states of disease. In animals we lack this valuable aid.

We cannot conclude these observations on auscultation without remarking, in a general manner, that, though of themselves of great importance, they are not to be regarded as infallible: they should on all occasions be coupled with the ordinary pathognomonic symptoms; and by the two, considered together and relatively, ought the practitioner to be guided.

We must make ourselves well acquainted with the permanent existence of the different *râles*. Some sounds will be found to come and go, and become replaced by others quite of another character; or several sounds may exist at the same time. Notwithstanding all this, however, by patience, attention, and study, we shall be able, I think, to establish, in our explorations of the chest, sure diagnostics of pulmonary disease; our ear being previously well educated for the business. Practice will give us tact in auscultation, and perfection in the art will place us in a situation to estimate the advantages we possess over the person who refuses such aid.

## DISEASES OF THE AIR-PASSAGES OF HORSES.

*By Mr. R. PRITCHARD,\* V.S., Wolverhampton.*

ALTERATIONS of structure in the bronchi are lesions of the same kind as those usually found in the larynx and trachea; I will therefore endeavour to describe some or most of the changes of structure which take place in the air-tubes, from the larynx to the smallest subdivisions of the bronchia, and next consider the history, nature, and consequences of them.

The alterations which take place in the mucous membrane of the air-passages, whether the vascularity, secretions, or structure be collectively or individually considered, are the same in kind, from the glottis to the air-cell. Congestion, in its passive or simple form, is sometimes found after death: it may have taken place during the life of the animal, or in the period of death, or it may be a post-mortem alteration. Any impediment to the return of blood to the left side of the heart may produce it during life. Active

\* How heartily do we welcome back our old and valued friend to the post of duty and of honour! A Percivall and a Pritchard! what may not be effected by such men?—Y.



congestion may be partial or general, and present various shades of colour, from a pale dingy red to a brown, purple, or modena hue ; differing in shade in different situations, and sometimes equal throughout. The inflammatory injection of the mucous membrane of the bronchia generally takes place more in one part than another, and is of more frequent occurrence than general congestion. The larynx and trachea may suffer active injection, whilst the bronchial surfaces are pale and free ; and even it is possible to be confined to one side of the tube, if one lung only is affected, corresponding with that of the diseased lung. The inflammatory action may be limited to the surface of the large bronchi ; whilst above and below, or anterior and posterior to this seat, the membrane is free from injection. It may exist in the lesser bronchi, producing difficult respiration and increase of pulse, with trifling or probably no cough ; and although it is frequently coexistent with disease of the substance of the lungs, still it does not necessarily depend upon it ; as the whole of the mucous surface, from the glottis to the termination of the bronchi, is occasionally free from congestion in acute cases, and oftener in chronic cases of pneumonia. Tubercles may exist in the lungs, and, previous to softening, no inflammatory injection is observable in the bronchial surfaces ; but if suppuration has taken place in the tubercles, the immediate or adjoining bronchi are most commonly inflamed.

Bronchitis may supervene upon tubercular excavation of the lung, and proceed throughout the trachea to the larynx, commencing in the small subdivisions of the bronchi, and advancing forward to the glottis. In diseases of the nasal membrane, fauces, &c. and in which inflammatory action more commonly originates, the injection extends from these parts to the laryngeal, tracheal, and bronchial membrane in succession, and, ultimately, the air-cells and substance of the lungs. This mode of origin and extension of the inflammatory action is the most common, but does not usually arrive at the lesser bronchia and parenchyma of the lung.

Thickening of the mucous membrane is a lesion frequently arising either from injection or congestion, and it is subject to hypertrophy from increased nutrition : this latter state of thickening may occur in the larynx, or be confined to the epiglottis and entrance of the glottis, a very common seat of it in chronic cough. I am aware of no particular inconvenience that would arise from this condition of the membrane in the trachea ; but within the lesser divisions of the bronchi it would change the sound of the pulmonary dilatation.

Hypertrophy may be limited to a particular point of the membrane, constituting a tumour upon its internal surface : if in the glottis, upon its rima, epiglottis, vocal chords, or ventricles, it would be productive



of roaring. Extensively entering the ramifications of the bronchi within the lungs, this kind of thickening may materially interfere with the changes of the blood by respiration.

*The Mucous Follicles* are subject to enlargement forming so many circumscribed granular bodies, varying in colour from a dirty white to a dark brown, observed on the inner surface of the membrane encompassed by coloured circles; they may be mistaken for tubercles, as they exist or take place without thickening of the mucous surface. *Softening* has been observed in this membrane, and *ulceration* is not of unfrequent occurrence; these solutions are generally found in the larynx, but they may take place in any part of the trachea or bronchi: they seldom extend deeper than the cellular tissue attaching the membrane to the parts beneath, and the tissue at the base of the ulcer is generally much thickened. Ulcers in the larynx vary both in number and extent; sometimes only one, in other instances several, extending over a considerable surface, or one of magnitude may invade a considerable portion of the larynx, and without doubt produce roaring. This ulcerated condition of the larynx is frequently connected with a tuberculous state of the lungs; fistulous openings from excavations in the parenchyma sometimes are found in the walls of the bronchi, and such communications with the tube undoubtedly, for the most part, are produced by pulmonary excavations breaking into them; but I am of opinion ulceration originating in the respiratory mucous surface may, by a process of absorption, perforate the bronchial tube from within outward, and give rise to inflammation and suppuration of the substance of the lung.

*Mucous Secretion of the Bronchi.*—Alterations of this secretion, both in quality and quantity, take place in different states and stages of inflammation of the mucous membrane. In diseases immediately affecting this tissue, either acute or chronic, the secretion of mucus is frequently very much increased: the quantity in some instances is so excessive as to destroy the animal by its accumulation, nearly filling up the bronchi, trachea, and larynx, particularly in animals in which the vital energies of the frame are much diminished, and the inflammatory action has assumed a low type; and, what is the more remarkable, this excessive secretion is occasionally unaccompanied by any change of the air-passages. It may become so adhesive and viscid, cling to the walls of the bronchi, and by accumulation so impede the ingress of air, as to produce a fatal dyspnœa. The mucous secretion in other instances is changed to a puriform fluid, and this even without a trace of ulceration or inflammatory blush in any of the bronchial tubes, or apparent alteration of structure: nevertheless, this state of secretion is gene-

rally attended by patches and lines of inflammation of the mucous surface.

*Membraniform Concretions.*—These formations, commonly termed false membranes, but, in fact, having no claim to the appellation of membrane in its true sense, in any degree, are found upon the inner surface of the air-passages more frequently than any other mucous duct. It has been considered by some pathologists that these animal planes are the product of a high degree of inflammatory action: this I conceive an error, and should rather attribute them to an excess of albuminous principle in the blood, united with a disposition in the secretory vessels to discharge it. These concretions are rarely, if ever, organised, and in substance and consistence, in cases, vary from situation, together with other circumstances. Their conformation differs: the deposition may take place in patches, membranous bands, traversing the canal in layers, or even perfect tubes, or formed like a polypus. Fortunately, these membraniform concretions do not often occur: I enumerate them only as changes to which the mucous membrane of the air-passages is subject; however, cases of roaring, fatal dyspnœa, and death, have been produced by them. Worms are sometimes found in the air-tubes, more especially in cattle; but their existence in this situation arises from a source differing from and independent of alterations of any of the structures composing the air-tubes, therefore a descriptive history of them is not connected with the present subject.

*Hemorrhage from the Mucous Membrane* is an occurrence to be enumerated as another change or lesion of the respiratory surface, and may take place during the existence or absence of the ulceration or breach of the membrane: it rarely occurs to an extent sufficient to destroy life. I never saw death happen from this accident, and the lesion confined to the membrane; but blood is frequently found in the respiratory canal, in animals that have died with diseases of the heart or lungs, extravasated underneath the mucous surface in coagulated patches, various in extent and situation, to which is given the term ecchymoma or ecchymosis.

The *fibrous and muscular Structures* undergo abnormal changes: softening or hypertrophy of the fibrous tissue of the bronchi is sometimes observed; the ligaments of the glottis become softened, lose their natural colour, and even change to cellular-like or leather-like tissue: occasionally these ligaments, as also those of the trachea, are absorbed, and give rise to adhesions of some of the cartilages. The muscular structure, as entering into the formation of the trachea, as well as the muscles of the larynx, may be either atrophied or hypertrophied, softened, and partially destroyed by ulceration. The laryngeal muscles are sometimes hypertrophied

on one side, whilst those on the other have wasted away and nearly vanished; a condition to which roaring has been by some pathologists mainly attributed\*: in other instances of alteration of the muscular tissue are infiltrations of different morbid secretions.

The *Cartilages* of the air-passages are frequently diseased: ulceration is mostly met with in those of the larynx, and generally commences in the soft parts covering them. Ossification is very common to the thyroïd and cricoïd: occasionally the epiglottis is thickened and indurated; but this and the arytenoid cartilages are rarely, if ever, found ossified. The tracheal rings are sometimes ossified and anchylosed, but other changes in them are seldom met with. The tubes of the bronchi may become ossified; a brittle fragile condition I have many times observed, even in the minutest subdivisions of them.

*Alterations of the Cellular Substance*, entering into and connecting the several structures of the air-passages, consist of softening, by which it is more or less destroyed; and thickening and induration: it is often the seat of congestion and inflammation. By a subacute inflammation it is softened and destroyed, and by chronic inflammatory action it is also indurated and thickened: it is sometimes infiltrated with serum, and œdematous, by which the mucous membrane is distended, lessening the caliber of the glottis, affecting seriously the action of the muscles, the form and movements of the epiglottis, together with the rima glottidis, impeding the ingress and egress of air in a greater or less degree. This state of the cellular tissue is generally consecutive of the inflammation of the mucous surface, or the result of chronic disease of the larynx. Cases present themselves in which the intensity is of a very low grade; and others, in which the inflammatory action is exceedingly acute and rapid. I have many times seen the caliber of the glottis so diminished in the horse, and, but for tracheotomy, fatal dyspnœa must have ensued. Pus is occasionally found infiltrating this tissue more or less in extent, or in the state of small abscesses; and it is sometimes the seat of tuberculous matter: different kinds of tumours occasionally occupy the cellular tissue of the larynx and parts adjacent, and either by pressing on the nerves, or the movements of glottis, produce similar effects to those resulting from disease of its walls.

*Change of Caliber in the Air-passages.*—The alterations enumerated above as occurring in the several tissues, change in a remarkable manner the size of the air-passages. A diminution of capacity is occasioned by thickening of the mucous membrane; infiltration of the sub-mucous cellular tissue in or about the larynx;

\* In some future paper I intend to offer a few remarks on the subject of roaring.

mucous concretions and membraniform bands in the larynx, trachea, or bronchi; various productions, as coagula of blood, or concrete mucus or wounds, in any part of the canal; constriction from some tumour externally of the larynx, trachea, or bronchi, as by enlargement of the thyroïd or bronchial glands; osseous tumours growing upon the cervical vertebræ, &c. And I have every reason to believe that a diminished capacity of some part of the respiratory tubes exists very frequently, varying in degree, producing sensible alteration in the sound of the pulmonary expansion, and not sufficiently permanent to be obvious on examination after death, from contractions of a spastic nature of the fibrous tissues or muscles connected with them; and more especially when morbid secretions irritate the larynx or bronchi.

Beside constriction of the air-vessels, we find dilatation of the bronchi. A bronchus may be dilated its whole length, or limited to a point: this recession of the air-vessel may vary from the size of a pea to that of a goose egg. I saw a very fine specimen of this kind in the lungs of a horse that were affected with chronic disease: when I first observed the dilatation, I apprehended a suppurative excavation, as it was full of mucus of a puriform character; but on washing it out, the parietes of the canal were sound, but much reduced in substance, whilst the walls in the other portions of the tube were evidently much thickened. Anterior and posterior to the dilated part, the tube was of its natural diameter. This animal had suffered from bronchitis some time previously, from the character of the mucous surface, if not the chronic form of it, up to the time he died. I am of opinion this alteration of the bronchi is only found in chronic disease of the lungs and air-tubes.

The *Causes of Congestion* of the mucous membrane of the air-passages are not well known; nor does it often appear in a severe or general form, but more frequently in a partial state, and to usher in inflammatory action, laryngitis, cynanche trachealis, and bronchitis. Veterinary surgeons are fond of giving to inflammation of the tissues of the air-passages such names as influenza, distemper, epidemic catarrh, and bewilder themselves about causes and influences, the nature of which they can give no satisfactory explanation or proof of what they assert. For my own part, I prefer seeking causes from such sources as I can readily understand, and leave the study of Vesuvius irruptions and pestilential gases to those who are fond of inquiring into them. The same causes that give rise to catarrh produce laryngitis, as it is, for the most part, consecutive of inflammation of the mucous surface of the nostrils. Among the predisposing causes are original conformation and diathesis; disorder of the digestive and assimilating organs; cold, moist, changeable climates; variable or wet seasons, especially

from November to April. The exciting causes I consider are, commonly, cold and moisture, and such other states of the atmosphere as check the insensible perspiration, and alter the functions of such parts of the mucous tissue most obnoxious to their first impression. There can be no question of the state of the air at certain periods influencing the prevalence of catarrhal disorders; but much is depending on the condition of the system to render such impressions capable of producing disease. Moving horses from one locality to another will sometimes produce colds and coughs, and at others remove such ailments. Another cause of inflammation of the respiratory mucous surface is the continuance of travelling with a cold wind in the face; the sudden change from a low to a high temperature, particularly following a long exposure to a cold moist atmosphere, or the exposure to wet for some time of such horses as are stabled. *Cynanche trachealis* generally arises from extension of inflammation either from the larynx or bronchi, and I therefore direct my observations to the principal part of my subject, *Bronchitis*.

Inflammation of the bronchial surface, as a distinct disease, has not had that particular attention by authors and systematic writers so important a disorder requires, but has been confounded with catarrh and the diseases of the lungs. However, I presume there are few practitioners of experience but are by this time satisfied that bronchitis is a distinct disease, and by no means of unfrequent occurrence. Inflammation of this part of the mucous surface of air-tube arises variously, and presents different grades of intensity, according to the severity of the exciting causes and the state of the animal at the time of attack. It is very prevalent during some seasons, and frequently fatal. Acute bronchitis, in its sthenic or true form, is sometimes preceded by a soreness of throat and cough; a sense of soreness in the larynx, evidenced by coughing after water and food is swallowed; and by external compression. As the soreness of throat diminishes, the inflammatory action advances along the mucous tissue of the trachea to the bronchi. But without this precedence of morbid action, it commences in the latter situation, and assumes a severe form: marked chills, with a death-like coldness of the nose, ears, and legs, precede the attack, or a complete rigor before or early in the commencement of the ailment. The cold fit is soon followed by a general warmth, a quick pulse, increased respiration, and oppression at the chest, painful cough or sneeze, eyes injected, loss of appetite, and considerable prostration of strength. The frequency of the pulse, respiration, and cough, increase as the disease proceeds, and a secretion of mucus in the bronchi comes on: the oppression and anxiety of countenance is more marked. The bronchial murmur, which at first is sonorous or wheezing, becomes



rattling, from the passage of the air through the mucus in the bronchi, and the expectoration is attended with greater exertion. The bowels are costive, the urine scanty and high-coloured, the tongue furred, and the thirst increased.

So long as the breathing and cough continue dry, and the report from the bronchial tubes, during respiration, is sonorous, and without the mucous râle, the first stage of the disease may be said to be present. When expectoration first comes on, and the horse coughs the mucus up and snorts it from the nostril, it is generally very viscid and tenacious; and the more it can be drawn out into fine threads, the more irritable and inflamed is the surface secreting it. As the disease advances to resolution, the expectoration is more abundant, of a paler colour, and of less tenacity. In extreme and unfavourable cases the breathing becomes more laborious, the expectoration and secretion of mucus diminish, the pulse is quick and depressed, the extremities and surface cold, countenance haggard and distressed, and in some cases delirium, which is soon followed by death:—but more of this when I come to the terminations. Bronchitis, in its primary form, is frequently connected with catarrh.

*Catarrhal Bronchitis.*—This is a more frequent form of the disease than the one just described: it is the inflammatory irritation of catarrh affecting the mucous membrane of the trachea and bronchi. It commonly begins with soreness of throat, and other symptoms of cold, gradually creeping down the larynx and trachea to the large bronchi; and as the irritation subsides in the former, it becomes more developed in the latter: however, it takes place occasionally without any symptoms of irritation, either in the nasal membrane, tonsils, or fauces, and evidently has its commencement in the trachea or bronchi. It begins with cough and falling off in appetite, the breathing somewhat deeper, dulness and loss of spirits, with more or less constitutional disturbance attending these local symptoms; a degree of anxiety and restlessness, the horse frequently changing his position, standing with one hind leg and then the other in rapid or frequent succession; the cough and resonance of the larynx and trachea is generally dry during the first and second day: in some cases a slight discharge from the nostrils commences with the disease, and will be observed when the horse drinks, if not perceived in his passive state; but in either case a plentiful secretion from the respiratory mucous surface generally comes on by the third or fourth day, and amendment of the symptoms of the disorder takes place; and, as convalescence advances, the mucous secretion and cough diminish, and the animal soon recovers. This is the usual course of catarrhal bronchitis. But in some cases it presents a different character, and then the above term



is no more applicable to the disease than to pneumonia, in which it does sometimes terminate.

This form of bronchitis, which I have just described, seems to consist of a less acute inflammation of the mucous membrane, not affecting materially the submucous tissue ; and, if not commencing in the membrane of the trachea and bronchi, to have extended to those parts from above downward, and limited in this situation to the mucous surface ; but should the inflammation be more active and acute, and involve the submucous tissue in its action, at the same time extending more generally through the bronchi, the disease has then assumed the true or sthenic form of bronchitis.

[To be continued.]

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## ON HOOVE IN CATTLE.

*By Mr. T. MAYER, Newcastle.*

[Continued.]

SINCE I had the pleasure of forwarding a communication relative to this destructive malady in young cattle, I have had still further opportunity of testing the value of lime-water, alternated with a solution of salt in water, in curing it. It is, as I have said before, an affection dependent upon the development of an innumerable quantity of worms, of the filaria species, in the cells and bronchial tubes of the lungs, which create only a certain quantum of irritation in that viscus and the mucous membranes of the bronchi as to keep up that extent of secreted fluids just adequate to their demand for their support ; but which brings on a constant cough, quickness of breathing, rapid loss of condition, and, ultimately, either wears the animal out, or else suffocates it by their extraordinary accumulation, accompanied with a correspondent increase of secreted fluids. It is an affection not confined to cattle, for we find it in other animals, as sheep, deer, &c., and not exempting even man himself. I have often considered whooping-cough as bearing a very strong analogy to it ; and it would be well to try how far the same remedial measures would avail in this disease ; and also, when opportunity serves, to make post-mortem examinations to ascertain whether it has not a similar origin. In that very valuable work, " The Naturalist's Library," conducted by Sir Wm. Jardine, Bart., F.R.S., F.L.S., &c. &c. (a work which ought to form a portion of every agriculturist and every veterinary surgeon's library, whether as regards its extreme cheapness, the valuable matter it contains, the beauty and fidelity of its plates, which

are coloured to life, or the elegant manner in which it is got up), I find that, in the memoir of the celebrated and scientific Camper (vide vol. iii, on Deer), he had noticed this disease in cattle, and brought it fairly before the public as to its cause. I cannot do better than transcribe his own words.

“ During some years, the calves which went to pasture were attacked with cough, &c., which gradually got worse, and terminated in destroying the animal with intense suffering. The disease was uniformly fatal. A thousand head were cut off in the neighbourhood of Groningen in a short time by this disease, without the cause being discovered, or any efficient remedy suggested.

“ To inquire if any thing could be attempted for its removal, I went (says Camper) to visit one of my acquaintances, who, of fifty calves, lost in the month of August, more than thirty, in a meadow where they fed along with many cows, heifers, horses, sheep, &c., not one of which, however, was affected. On the 2d of September I examined one of the carcasses, and found the digestive organs were all sound. On opening the chest with great care, I found it was quite free from inflammation. I then removed the tongue and windpipe; and scarcely had I opened the gullet, when I discovered millions of worms. They were from an inch and a half to two inches long, white and slender. I traced them down the windpipe, and found myriads of them in the proper substance of the lungs\*. In another individual, I found a great cluster of many millions of these worms, which obstructed the windpipe, and had choked the animal. In all that died from the disease, the cellular membrane of the lungs was filled with the worms, while the air-cells were free.† Examined through the microscope, the worms were found pointed at head and tail, and about one-sixth of an inch in width; they were also discovered to be viviparous. I have made extensive, though fruitless, researches to find any account of this disease in authors, or any description of the worms in the works of naturalists. Klien, Linnæus, Pallas, and Müller, and all those who write particularly on worms, have confounded them with the *vena medinensis*. The appellation *gorduis* has been given to a filiform worm; but, on comparing it with this pulmonary one, it is evidently distinct. It is singular that Gesner has given to a worm somewhat similar the name of wasser-kalb, at the same time observing that he does not know its origin. He, however, likewise knew that the calves sometimes swallowed them with the water which they drank, and at the great peril of their lives. Gesner, therefore, knew that there were worms which induced a disease in calves which was frequently mortal.” The celebrated

\* He means the cells of the lungs.

† And again, he says, “the air-cells were free.”—ED.

M. Goese, in his admirable essay, *Hist. Nat. des Vers Intestin. des Animaux*, written several years afterwards, denominated this species *Les Vers de Camper*.

“ I lost no time,” he continues, “ in stating in the public papers a discovery so important for the country, inviting co-operation in my labours, and volunteering to come and examine the disease in any district where it might break out. If ever any cases should again occur under my control, I should direct the animals to be shut up in huts made for the purpose, where, by continual fumigations, they should breathe a medicated air. The subject is important, not to my native country only, but to Europe; and I would invite all naturalists not merely to examine the nature of the disease, but also to inquire into the most effectual and least expensive remedies. I cannot reflect upon the benevolent and humane disposition now so prevalent, without experiencing the liveliest delight, that there nowhere exists the people who will not, free from all petty national interest, take their share in this great object, which alike concerns us all.”

To Camper, therefore, belongs the merit of having ascertained the cause of this destructive disease. It is fortunate that an effectual and specific remedy has been found out, which has not only for its greatest recommendation its efficiency, but likewise its cheapness too; for, from the small value of a calf, it would be impossible for the farmer to adopt any expensive remedial means, much more employ the attendance of a veterinary surgeon: the first loss would be the least. It is very singular that this disease should be met with in calves that have never been turned out, and during the period they are sucking. *I give not this upon my own authority, but that of others.* It tends, I think, to confirm the opinion advanced in THE VETERINARIAN by myself, vol. viii, p. 399, that it dates its origin from ova taken up in the water the animals drink. If the proximate elements of medicine taken in by the mother can go the round of her circulatory system, enter into the milk secreted by her breasts, and affect the offspring that sucks that milk similarly to herself, I see no reason why the ova of animalcula taken up by the mother in the water she drinks should not pass into the same secretion, be sucked in by her offspring, carried into the round of its circulation, and find its way into the bronchi through the medium of its secreted fluids; then become developed, and there give origin to this very peculiar affection.

The farmer whose young stock I gave you the history of in the 7th vol. of THE VETERINARIAN, page 585, and who lost six of them before we adopted the use of the lime-water and solution of salt, and none afterwards, has since had his stock affected again; but, by employing these two simple remedies, he cured all in the

course of three weeks. A neighbour of his had four attacked with it, one a very valuable bull calf; but, unfortunately, we were not called in till the day it died. Suspecting what was the cause, I made a post-mortem examination, and found the bronchi full of these worms: one of the surviving three was very much affected, hoosing continually, very much reduced in condition, and its breathing particularly affected; the other two had it very slightly. By the administration of lime-water and salt and water, they were all three soon restored. Another farmer had between twenty and thirty affected with hoove. The person he called in commenced by bleeding and purging, which soon put half a dozen *hors de combat*: he then adopted the administration of lime-water, which saved the remainder. The Right Hon. Earl Talbot had a valuable bull calf attacked with it. We recommended the above simple means, and it was well in a fortnight. I therefore think we may consider lime-water and salt and water alternately as a complete specific in this destructive malady; but still I shall feel particularly obliged by either veterinary surgeons or the agricultural portion of our community communicating, through the means of your valuable Journal, the results of their practical test of its efficiency or inefficiency.

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## CHOKING IN CATTLE, AND ON THE USE AND ABUSE OF THE FLEXIBLE TUBE.

*By Mr. READ, V.S., Crediton, Devon.*

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A simple instrument is a dangerous weapon in unskilful hands.

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CHOKING is of very frequent occurrence amongst cattle, when bulbous roots, such as turnips, mangel wurzel, or beet, form the chief food for store and stall-fed beasts. The season being nearly over with us, I will endeavour, from multifarious cases, to explain the practical results, as to the best method I have, from many years' observation, found in using the probang. The symptoms, the mechanical disorders, the means of relief, and the injurious effects, of injudicious treatment will form the subject of this paper. Now, perhaps, none of my veterinary brethren who are town practitioners are aware of the immense loss of cattle sustained by farmers from this mechanical obstruction of the throat; too hasty or too rash a use of the tube is the frequent cause of serious calamities. This year I have known no less than four beasts killed, not by the obstructing body, but from the improper use of the instrument, either by the farmer himself, or by the empiric he employed. Thinking

the gullet is a hollow tube, force is used, and rupture is produced either in the fixed or upper part, or the floating portion within the pleural cavity.

Another great evil is the employment of instruments whose tops are made of soft metal, such as lead, which soon become ragged or rough from being sometimes accidentally bitten by the bullock : this is a very frequent cause of fatal laceration. The force required to break through the gullet in a line with the muscular fibres is not very great, of which any one may soon convince himself by having the œsophagus or gullet of an animal fresh killed at a slaughter-house, and putting an apple or potatoe into it a little larger than the opening in the canal ; it will then be discovered that but little force is required to burst it through. Since so many useful machines for cutting turnips, &c. have been in use, hoven is not so frequent : the pieces being either flat, square, or cylindrical, are not so likely to block up the whole of the throat, and thereby prevent the escape of the generated air of the rumen, as a rounded substance.

Now all round bodies accidentally swallowed, and becoming impacted in the throat, are more dangerous, and require quicker relief, than substances of a dissimilar form. A few years since an instance occurred to a cow belonging to a friend of mine, which was driven into the farm-yard in the morning to be milked, when the rumen was filled with grass and wet with dew. A basket of potatoes chanced to be left in her way, and she eagerly caught up one in her mouth and bolted it. The air in the rumen was prevented from escaping, and so rapidly did she become blown, that in ten minutes she was dead. I arrived just after her death, and my friend, Mr. Henwood, requested me to examine the obstructing body. It was a potatoe, firmly wedged about two feet down in the gullet ; and although it had been there but so short a period, it was beginning to get soft on the surface.

The danger in choked cattle is not very great, unless the animal swells. Distention of the rumen as a consequence of choking requires different methods of treatment, which will be pointed out as I proceed. The probang should be moderately stiff, and the ends made of either brass or iron. The one I have been in the habit of using has moveable ends, so that I am enabled to affix three different sizes on the same tube, which is of great advantage, as the following case will shew :—Mr. Wm. Partridge, of Aller Farm, Sandford, belonging to John Quicke, Esq., of Newton House, had a cow choked a few years since. Having a tube of his own, I did not take mine. In the morning I endeavoured to remove the obstructing body, but could not succeed. In the evening of the same day I tried again, but with no better result ; and I then gave it up as a lost case. The butcher was sent for ; but in the mean



time I had my own tube brought, and, screwing on the largest size end, I succeeded in removing the obstruction in a moment. My opinion is, that the first tube used was too small, and that it did not sufficiently expand the caliber of the canal, but allowed the throat to gather in folds, thus acting as a barrier to the passage of the obstructing substance into the paunch.

I have also an end or knob belonging to my tube cut obliquely across, which I find will often remove a substance in the throat when the round or cup-like end will not. The body, I conclude, must then have been transversely across the gullet, when the oblique end, having a greater side force in pushing on the substance, it very soon gives way, and relief is obtained.

With due submission to my readers, I will now detail, as clearly as I can, and from the results of hundreds of cases, the symptoms, treatment, and its sequelæ; beginning first with the method of securing the animal, and arranging the assistants.

Let a rope with a running noose be thrown over the head of the animal, behind the horns; bring the long end in front, and affix it to the beam of the cow-house, or, if in a turnip field, to the nearest gate-post. Let one assistant hold the animal by the nose and one end of the mouth-piece; another by the horn and the other part of the handle of the mouth-piece. After buckling the leather strap behind the horns, let the head of the cow or ox be so loose that you may be able to raise or depress it at your will: you will then have every thing ready to commence.

*Symptoms.*—Violent husking—forcible contraction of the abdominal muscles to expel the offending body—spasmodic action of the muscles of deglutition—the neck drawn up in the form of an arch—the head a little raised—the nose poked out—issuing of ropy mucus from the mouth and nose—frequent dribbling of urine and expulsion of fæces. As the rumen becomes distended, so the tongue is thrust out, and the eyes weep.

*Treatment.*—As soon as you are called to a case of this kind, let half a pint of oil be horned down: if this cannot be obtained, melt a little lard, which I think is preferable. Dip the end of your tube into it, stand in front of the animal, pass the instrument along the roof of the mouth, and it will with little trouble pass into the œsophagus. When it has reached the obstructing body, use firm and moderate pressure, and no more; alternately raise and depress the head, if it does not easily pass. Wait; be not impatient; as the longer it remains the softer it gets. When you again try, you as well as your employer will be surprised to see how quick it is removed: impatience has been the means of killing scores.

A bullock once choked and relieved, will choke himself again in ten minutes, if the turnips or other roots are not removed, a case



that has happened to me ; and I have been obliged to relieve the same bullock again before leaving the farm-house.

I always order a slop-mash for a day or so, and remove solid food, thereby allowing the overstretched muscles of the throat to resume their former tone.

*Laceration* of the lining membrane of the œsophagus and its muscles is the product of too great mechanical force being used, and from ragged tube ends. A laceration is soon discovered. When in the neck part, a swelling commences, and hourly increases, generally above the accident in a much greater proportion than below. It is a hard, tense, inelastic swelling, from an infiltration of mucus into the surrounding tissue. The poor beast seems to be aware that something wrong has occurred ; fever is soon set up ; respiration becomes painful ; the animal moans, refuses every thing ; the breath becomes foetid ; and death ensues from the third to the fifth day. If the animal is in good condition for the butcher, my advice is to let it be slaughtered. Do what you will in these lacerations, they generally die.

I do not agree with Professor Gellé, that the swelling arising from a torn œsophagus is a soft fluctuating tumor : every case I have seen has been quite the reverse. Longitudinal splits in the throat, whereby the obstructing body gets into the surrounding substance, is, perhaps, what the Professor means ; yet it rarely happens in the cervical part, but chiefly in the floating portion, within the chest, that bodies escape out of the œsophagus.

*Rupture of the œsophagus* within the chest is soon fatal. The beast swells, and is in great pain—the breath is tainted with the odour of the ingesta of the rumen, from the air or gas escaping into the cavity of the chest, and being absorbed by the lungs—the eyes are suffused—there is great anxiety—and the chest is enlarged in circumference. Remedial means are of no use ; and, on opening the body after death, you will find the contents of the rumen, and fluids also, in the cavity.

*Hoven.*—This, as a consequence of choking, requires the use of prompt measures. It is generally the result of a round body becoming fixed in the throat, or from swallowing a little hay when only a small substance may be lodged there. It often happens that the country veterinary surgeon has to ride a mile or two to relieve a case of this kind. On his arrival, the beast is ready to drop from flatus, producing pulmonary congestion, suffocation, and mechanical apoplexy, from pressure on the lungs. Lose no time in puncturing the rumen ; and you will then, in most cases, with ease introduce the tube. Sometimes, if the animal will stand, the tube can be put down without puncturing the rumen. It may also happen, when an animal is sadly blown, that although the tube is introduced into the paunch, this viscus will not contract. In this

case, press the flanks on either side at the same time, when the air quickly rushes out, and all is shortly well. Sometimes bleeding is necessary, especially if the eyelids remain swollen, or the respiration continues quick.

*Vomition* is also an effect of choking; but, in this case, the substance is lodged in the bottom part of the canal, near to its entrance into the rumen, and is commonly a knob of the bind which surrounds a bundle of straw. The animal eats and drinks for a few minutes, then stands still, but before ten minutes have expired spasms come on, and the food is again thrown up. He will then begin to eat again; and the same effect follows, until the substance is got rid of.

*Impaction*.—Occasionally turnips or other bodies are so firmly wedged in the roof of the mouth, that some force is requisite to remove them. The animal is continually tossing about her head, mumbling her jaws, and saliva is seen running from the mouth. Inspection of the mouth will detect the cause.

I shall now bring this paper to a close, fearing that I have been too long trespassing on the valuable space of a Journal devoted to the diffusion of veterinary science. I am proud to say, that THE VETERINARIAN is not only circulated among the members of the profession, but that it has found its way into the library of the nobleman, gentleman, and farmer. The diffusion of scientific principles as to the treatment of the diseases of our domesticated animals has been the result, and which has done much to protect the interests of the agriculturist, and advance the cause of humanity, by securing their valuable animals from the ignorance of the empiric.

I do not mean to call all those empirics who have not graduated at the College; there are many now practising the art who have not seen the College walls, who are, nevertheless, well-informed men. Let us, therefore, send to THE VETERINARIAN practical cases, practical results, and practical treatment, shorn of all unnecessary philosophy and technicality, so as to be understood by every reader. Frankness and candour with our employers gain confidence; while mystery in every thing has been the safeguard of the ignorant empiric. But the veil is now taken off, and men begin to find out that it is their interest to employ educated practitioners. Many farmers in my neighbourhood read, and others take in, this valuable Journal, which has done so much to discard ignorance and brutality. Let us, then, endeavour, through its means, to advance the progress of our noble science, that benefit may not only accrue to ourselves, but to the nobleman, gentleman, and agriculturist.

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## PERITONITIS THE RESULT OF CASTRATION.

*By* PROFESSOR STEWART, *of Glasgow.*

It is well known that peritonitis frequently follows castration, and it is said, in explanation, that the operation produces inflammation in the spermatic cord, and that this inflammation extends, under certain circumstances, to the peritoneum.

I have met with one case in which this explanation will not serve, and am inclined to believe that it may be found insufficient in many other, if not in all, cases.

On the 16th July, 1836, I operated upon two colts, the property of Mr. Mackinlay. One, a year-old, struggled much. When he rose after the operation, I heard a slight gurgling noise proceeding from the scrotum. Fearing hernia or some other evil, I put my hand against the abdominal ring, and the noise ceased instantly.

Up to the night of the third day the colt appeared to be doing pretty well, though he was dull, and the scrotum much swollen. At five o'clock on the morning of the fourth day, the groom found him rolling about the stall in great pain, and by seven o'clock he was dead.

*Dissection.*—The external tumefaction had disappeared almost entirely; suppuration had not been established in the scrotum. The abdomen was large and tense; upon opening it some air escaped, and I then expected to find rupture of the stomach or bowels. The stomach and bowels, however, were sound, and nearly empty. The peritoneum was vascular, and here and there coated with lymph, which in several places slightly united the bowels one to another. There was much serum and a little loose lymph in the abdominal cavity. Attached to the stomach was a tumour which might weigh about four pounds. It was surrounded by the omentum so closely that the two could not be separated without laceration. To the eye it looked like a macerated spleen; but it was short, easily torn, and large bloodvessels ran through and over it. It seemed to me to be nothing but effused lymph collected in some unaccountable way by the omentum, and entangled in its folds.

On examination of the spermatic cords, I found one in its usual place and with its usual appearance, not thickened nor discoloured, nor divested of the eschar produced by the hot iron which I had employed to arrest the bleeding. The other cord, that on the right side, was altogether within the abdominal cavity. Its seared extremity lay just at the internal opening of the ring, and quite free from it. The eschar was quite fast; and, in other respects, the

cord had precisely the same appearance which it had at the time of castration.

It appears, then, by this case,—

1. That the colt will sometimes draw the spermatic cord into the abdominal cavity.

2. That a considerable quantity of air will sometimes follow the cord.

3. That the retention of air in the abdominal cavity will produce peritonitis.

4. And it is probable that castration by the clams will not be followed by peritonitis.

In my neighbourhood the clams are unknown, and are therefore objected to as something experimental. I am constrained to do without them; but I am in the habit of fixing the cord to the scrotum by a stitch, which embraces the integument and the peritoneal covering of the cord.

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## DROPSY OF THE PERICARDIUM.

*By Mr. PROCTOR, V.S., Solihull.*

AS yet the diseases of the heart, in my humble opinion, have been very imperfectly understood; however, I think, I am supported in this rather broad assertion from the fact, that all the works on the diseases of the horse which I have had an opportunity of reading say little, and that little is very unsatisfactory, regarding them; while most of them are altogether silent respecting these maladies.

I confess, Mr. Pritchard, of Wolverhampton, has said more in his papers in *THE VETERINARIAN* than all the works of English authors put together. The writings of that gentleman I always consider both profitable and interesting; and on the diseases of the heart, certainly, he has thrown much light.

My remarks on hydrops pericardii are strictly confined to what I know, and from what I have gathered from very close observation; for it is only by spending much time, and examining our patient again and again, that a knowledge of this and other affections of the heart can ever be obtained, particularly in their first stages. It was in this way that I first of all discovered dropsy of the pericardium in my patient. Perhaps if I narrate the particulars, it will not be amiss.

The first patient in which I recognised this complaint was a fine bay mare that belonged to an attorney of this place. The early symptoms were, hurried breathing, quickened pulse, and

shivering: I jumped to the conclusion that this was an attack of inflamed lungs, and accordingly I bled, &c.; from which treatment these symptoms quickly disappeared, when I thought all would be well; indeed, my patient was considered by her owner, as well as myself, almost recovered, only that her appetite did not quite return. A day or two passed, when I was again called in, from the mare having another shivering fit. When I reached her, the rigor had left her; her breathing was good, the extremities warm, the pulse little affected as regards frequency and quality; and all that I could collect to make me consider her ailing was her listless appearance and delicate appetite. You will perceive the case presented no tangible symptoms, no leading sign; in fact, the case, as I thought, wore a very obscure aspect. However, for all this, I asked myself the question, What is the matter with this mare? My answer to myself, and which would have been the same to my employer if asked, was, I do not know. Now, this was just such a situation as most practitioners, some time or other, are placed in. I felt mortified at my position, and from thence I summed up the determination not to let the matter rest until I had discovered the disease. Accordingly, I examined my patient in every possible way, which occupied me a full hour. At last I was equally particular in my examination of the pulse; not by keeping my finger, as is usual, for half a minute or so, but for two minutes at a time on it, when I felt it intermit. This became more evident, as the mare got more reconciled to my standing by her for some little time quietly. I examined her afterwards, and still the intermitting pulse continued. Now, the difficulty, I thought to myself, is at an end. When I found the heart and artery pausing every few beats, I gave it, at once, as my opinion, that the mare's malady was dropsy of the heart. Her owner directly sent for Mr. S., a highly respectable surgeon of the town: I met him, he examined her, and found the pulse intermitting, but was inclined to think that it arose from nervous influence more than the effect of effusion into the pericardium. I well knew the horse was not much the subject of nervous affections; and therefore, as I was from the first strongly impressed that the pausing of the heart and artery arose from something interrupting their action, and that it must be water, I stuck to my opinion.

The mare died on the eleventh day, and my judgment was correct; for, upon examination of the body, the pericardium was distended to bursting: no less than three quarts of fluid escaped. No other disease was to be found; and the only thing that could be observed was the paleness of the liver. It was of a mortar colour, which is always the case when horses die of dropsy of the pericar-

dium; at least I have always found it so, although the liver in structure has been firm and sound.

In my case-book I find twelve cases of dropsy of the pericardium: of these five appeared as a primary affection, seven were accompanied by or rather formed the sequela of other affections, as colds, influenza, inflammation of the chest, &c. Of the whole number, eleven were horses, and one a cow.

When this malady shews itself as a primary affection, there is always the most danger; for the effusion of serum into the pericardium generally proceeds to such an extent as materially to intercept or altogether suspend the action of the heart, and thereby occasion death; while, on the other hand, when it presents itself in conjunction with or appears on the decline of other diseases, there is by far less to fear; for in such instances I imagine the effusion ceases before any great quantity is formed, consequently its mechanical effect on the heart will be less serious.

*Symptoms.*—The disease is frequently ushered in with a shivering fit—the breathing may or may not be affected; if it is, it will soon become right—appetite nearly gone. During the first stage the patient has a listless appearance; he lies down—the extremities are warm—the mouth not particularly hot, but has rather a disagreeable smell—the pulse at first is quickened. These symptoms continue for two or three days, when the pulse lowers to nearly the natural standard; but intermits at every third, fourth, fifth, seventh, or ninth beat. Sometimes it will continue to act for thirty times without pausing. In favourable cases, about the sixth day the patient begins to be more lively and stirring; his appetite returns; the intermitting of the pulse leaves then, or may continue for nine or ten days, or a fortnight to three weeks. In one case this continued for eight weeks, and then went off; although during that period the appetite continued good, and the animal was cheerful. In fatal cases, the order of symptoms changes for the worse about the sixth or seventh day. The listless appearance leaves the patient, and now he appears as if on the alert, and seems somewhat distressed—the pulse becomes quick, irregular, and less intermittent—the heart palpitates, producing a vibratory effect on the whole body—its action is sometimes slow and powerful, at other times quick, irregular, and fluttering, rising from 50 or 60 to 100 or more per minute, and this several times in an hour. The patient becomes more distressed; the breathing is again quickened; the extremities grow cold; and about the tenth or thirteenth day he dies.

For want of space I cannot say all I could wish. As to the treatment, I must be very short: my plan has been, in the first stages, moderate blood-letting, laxatives, counter-irritants, and, afterwards, tonic diuretics, and good keep. Blood-letting always re-



moved for some hours the intermitting of the pulse. One thing I would particularly wish to make plain, that is, the intermitting pulse which always in a certain stage of this disease presents itself, as sure as the disease exists: and it is a symptom very apt to be overlooked; for practitioners are too momentary in their examination of the pulse, and then the least surprise, or even moving the animal, will, for a minute, cause the intermitting to be lost. I have no doubt that these cases have been, and still continue to be, considered by many as slight attacks on the lungs; and for such the poor animal is treated.

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## ON MELANOSIS.

*By CHARLES JACKSON, Esq., Honourable East India Company's Service, Madras Establishment.*

I WAS pleased to find that the conclusion I had come to in my own mind, as to the identity of the disease common among horses in India, known by the name of "diseased tail," with "melanosis" in the human subject, was confirmed by your intelligent correspondent, Mr. W. C. Spooner. The disease, as described at pages 163 and 164 of the February Number of this Journal, is very common about Madras, but in most cases is confined externally to the tail, which is occasionally enormously enlarged. I have seen tumours round the anus, and in various parts of the body. Light grey horses are most subject to it, and of that colour those with curly manes and tails.

I have never had an opportunity of making a post-mortem examination; for though cast when they can no longer bear the crupper, horses affected with this disease do not generally suffer in health.

The treatment usually adopted is, to cut away the tumours when practicable. I have seen Mr. Hooper, V.S. 4th Regiment Light Cavalry, take slices off a tail like a wheelright would from a spoke of a wheel. The skin soon healed over again, and the tail looked quite respectable to what it did before.

I have never tried any internal remedy; but I think, as Mr. Spooner suggests, that iodine might be useful. The veterinary surgeons of the Honourable East India Company's service labour under great disadvantages as to trying any new remedy, for the chemical preparations are very dear in India; and we are allowed to indent for those medicines only which are in a list sent us by the Medical Board.

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## DR. MARSHALL HALL'S DISCOVERIES.

DR. M. Hall being called on by Dr. Mayo, at a late meeting of the Royal Medical and Chirurgical Society, to explain himself to the Society on the question of his claims as a discoverer, stated as follows:—He believed that no one, previously to himself, had pointed out the existence of a distinct organ, for which he knew of no better designation than the true spinal marrow, in the same theca vertebralis with the cord of the cerebral nerves. No one had shewn that in the same neurilema with the cerebral, sentient, and voluntary nerves, and although distinctly from these, there existed a system of excitor and motor nerves having the true spinal marrow for their centre and combiner. No one had shewn the agency of the *vis nervosa* of Haller, as the motor principle in this subdivision of the nervous system; in fact, one thing had been impossible, for it was necessary to demonstrate that the *vis nervosa* acted in modes and directions unknown before. Dr. Hall had further shewn that this system of nerves, that this motor principle, were the agents and channels of action in all physiological acts of ingestion and egestion, and in all the morbid acts of spasmodic diseases. Had any one previously suggested the idea even that deglutition, for example, was a spinal act? This simple question was enough to determine the whole. This (Dr. Hall's) discovery *was not that of the reflex actions*, but of the true spinal system—its anatomy, physiology, pathology, and therapeutics. In reference to Dr. Budd's observations on the reflex actions in disease, he (Dr. Hall) might remark, that the influence of volition over the reflex actions was confined within limits which had not yet been determined. These actions were generally most obvious, however, in those cases in which the paralysis of volition was complete: hemiplegia was rarely so complete as paraplegia; the reflex actions were therefore less observable in the former than in the latter affection. Dr. Hall begged once more to call the attention of the Society to the very extensive application of the principles which he had been investigating to the diagnosis and practice in the diseases of the nervous system. A multitude of questions presented themselves for inquiry, which he proposed bringing in succession before the Society: none of these was more interesting than that of the influence of emotion, of which he proposed to treat in his next memoir.—*Lancet*, March 7, 1840.

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## IDIOPATHIC TETANUS IN A YEARLING FILLY.

*By Mr. G. BAKER, V.S., Reigate.*

I AM induced to transmit the particulars of a case of idiopathic tetanus which occurred last week in the course of my practice, in which the tender age of my poor patient is, perhaps, the most remarkable feature.

I cannot boast of being able to point out any new method of treatment which will effectually remove the dreadful symptoms of this disease. I believe there is no disorder, with the exception of hydrophobia, in which our therapeutical agents are more circumscribed and limited in their powers and actions, although, perhaps, in no malady has more opposite measures of treatment met with confiding advocates.

I was requested to visit at Gatton Park, to see a favourite yearling filly of Lord Monson's that appeared very ill, and they thought would go blind. I accordingly went; and on looking at my poor little patient, soon recognized the sad symptoms of that direful enemy, tetanus; and, of course, the apprehension of blindness was occasioned by the action of the retractor muscle protruding the membrana nictitans over the globe of the eye. On seeking the cause, I found that the filly had been turned in a paddock with a mare and colt: it was certainly in a most injudicious and exposed situation, and a fine high quick hedge on its northern side had been cut down, by which it was rendered still more exposed to the inclemency of the weather. It was clearly a case of idiopathic tetanus, caused by the cold and humid condition of the surrounding atmosphere. On further prosecuting my inquiries of the man who had the charge of her, I heard that, the previous day, he had noticed her in the field rather dull, and a little off her feed; but merely considered it a slight cold, and gave her a warm bran mash, which, however, she refused.

On the next morning she was standing alone in the middle of the field, with her head and neck stretched out, and the aforementioned protrusion of the haw, which induced him to think more seriously of the case, and he immediately sent off for me. I could but regret I had not been sent for the previous day; but the precursory symptoms, I have no doubt, were so slightly marked, that I could scarcely blame the man.

But now the stiffness and inability to turn the head and neck, the rigidity of the jaws, the painful and imperfect attempts at mastication, the raised position and quivering state of the tail, were not to be mistaken, and decided at once the great danger of my patient, and also the active and bold treatment required of me.

I at once bled as largely as I dared, without producing syncope, which, although it had its effect on the hard and full character of the pulse, gave but very slight remission to the spasmodic contractions. I, however, succeeded in giving a purgative of the farina of croton, fifteen grains, and blistered the spine throughout its whole course, and administered an injection of gruel with ʒiiss of pulv. opii. On visiting my patient in a few hours, I found the jaws nearly closed, but gave a ball of extr. belladonna and camphor, each two drachms, passing it as high up into the back part of the mouth as possible from the end of a small stick, though I had great difficulty, in consequence of the spasms of the muscles of the pharynx so impeding the power of deglutition; indeed, the effort was most convulsive and distressing to see.

I now further stimulated the spine with a renewed application of the ung. cantharides, and remained with the sufferer for some little time. There certainly soon appeared a slight remission of the symptoms, which, however, gave but a delusive hope. I availed myself of this temporary relaxation to give another dose of the croton, ten grains, the anus being completely closed, and repeated the injection. At my next visit, late in the evening, she was down; the disease, despite all my efforts, had extended itself over the whole muscles of the trunk and extremities. The head and neck were raised and thrown over towards the back in a most extraordinary degree, presenting that division or form of this disease termed opisthotonos. I had a skin just removed from a sheep applied over the back, and friction to the extremities, which were extended and stiffened out to the utmost.

The spasmodic contractions are now so increased, that respiration is performed with the utmost anguish: nothing can possibly be more distressing to behold, and profuse sweats mark the strong character of the convulsions. I therefore removed the sheep-skin, which had, perhaps, been on about an hour, or little more. The next morning I found her still in the same unhappy condition, and learned from the man that had remained with her that there had been no alteration whatever: the croton had acted once, though very slightly.

I now determined to try the effect of cold, and had ice applied all over the back and body, which, however, was perfectly unavailing. The pulse was scarcely perceptible. I endeavoured as well as possible to place another dose of the extr. belladonna and camphor in the mouth, but in a few hours death closed the scene.

I must now express my regret, that I can but certify to the defeat of so many of our remedial agents employed in this terrible malady; but, before I conclude, I must state my firm conviction,

that powdered opium, placed on the blistered surface of the spine, is calculated to excite much expectation of benefit in these cases, and I am sorry it did not occur to me until too late. Bleeding in the acute stage is certainly a most powerful resource, and claims our earliest attention; but I doubt much the propriety of following it up; yet this, of course, must in great measure depend on the constitution and condition of our patient.

In a case of traumatic tetanus, arising from a most severe case of broken knee, that came under my treatment some time since, I certainly obtained a remission of the symptoms and a relaxation of the rigors by giving the oleum terebinthinæ with opium; but the patient died. I do believe that much must be left to the skilful and vigilant observation of the practitioner, being persuaded that the causes producing tetanus are so various, that our success must depend much on the peculiar diathesis of the patient; and thus, sometimes, a remedy will avail under one circumstance that would totally fail in another. I must own that my principal reliance is on purgatives, both on account of the obstinate costiveness which attends this disease, and their powerful and revulsive influence on cerebro-spinal diseases; but no means should ever be neglected on which reason can ground a hope of relief. In this case I did not get a post-mortem examination; nor do I think it would have thrown much instruction on the case. The filly had ever been in excellent health and good condition, so that I must attribute this case to the long-continued wet and cold weather we have just experienced.

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## CASES OF THE LATE EPIDEMIC AMONG CATTLE.

*By Mr. THOMAS WARDLE, V.S., East Sheen.*

FROM the epidemic raging among cattle, this place has not been exempt, although it has not assumed so serious a character here as at some other places; at the same time I have had some severe cases. When it first made its appearance, in July last, it was very amusing to hear several know-alls pretending to give a description and the cause of this disease. Their treatment was equally absurd. I will relate the practice of one of them.

The patient was a poor Welch heifer. The first step he took was to bleed to the amount—the owner said—of a pail-full: he then gave, in the course of one day, port wine, ale, porter, ginger, aniseeds, cummin seeds, pepper, and several others, which the owner could not remember. The next day the poor patient was no more. They opened her, and, to use the words of this Master

of Physic,—“if he had employed all the world, she could not have been saved.”

On the next case I was consulted, and found the following symptoms:—constipated bowels, a great disinclination to move, and loss of milk; pulse accelerated, and about 60; mouth slightly ulcerated, with a large ulcer on the tongue; feet very tender, udder swollen, and the poor beast looking dejected.

The treatment I adopted was as follows:—sulph. mag.  $\frac{1}{2}$ ℥., pulv. antim. ʒi, pulv. nit. ʒii, ipecacuanhæ ʒii, in a pint of thin gruel, and in six hours repeated it. The feet were washed clean, linseed poultices applied, and the ulcers washed with a weak solution of zinc.

On the following day I found her much better; her body was open, and the ulcers in the mouth and tongue had assumed a healthy appearance. Dressing as before. Some suppuration appearing in the feet, I applied a strong solution of copper, and repeated the poultices. I then gave sulph. mag. ʒss, pulv. zingib. ʒij in gruel. In the course of a few days the cow was in her former health.

I have, up to this time, had about forty cases, in all which I have followed the above treatment, with one exception,—increasing the dose of sulph. mag. to 1 ℥. in several of them, with the best effect. I have not lost one.

I shall not venture to give any opinion as to the nature of the disease, but leave that to be decided by abler hands than those of your humble servant; at the same time I would suggest how acceptable the opinion of any gentleman with great practice would be, and particularly if he would enter into a full description of the disease; and no one, I will add, would that gratify more than myself.

## COMPOUND FRACTURE—AMPUTATION—WOODEN LEG.

*By Mr. JOHN STORRY, Pickering.*

October 30, 1839, I WAS sent for to attend a young cow belonging to Mr. William Beilby, of the Buck Inn, Wrelton. She had fractured her leg in crossing a small rivulet of water with a rough rocky bottom, about eight miles from Wrelton.

On examining the leg, I found it to be a compound fracture of the metatarsal and cannon bone, a little above the sesamoids. I dressed the broken ends, &c., bound up the leg with bandages taken with us for the purpose, and conveyed her home in a cart. I then returned the protruded part, put on a charge, and afterwards fixed



it in my fracture-box, giving her at the same time aperient medicines, &c. She went on very well, and, up to the 17th of January last, seemed to promise a complete cure; when, on that day, she fell again.

On a minute examination, I found the same bones fractured below the cuneiforme medium. I now considered that the only chance to save the animal's life was to amputate the limb, which, after due preparation, was performed. I soon stopped the hemorrhage, dressed and bound up the denuded part, and fixed on a wooden leg by means of straps with buckles around the tarsus. The cow has been very well ever since, and is at present doing well.

## ON THE REASONING FACULTIES OF ANIMALS.

*By Mr. W. C. SPOONER, V.S., Southampton.*

INSTINCT, or rather the mental endowments of animals, has within these few years engaged considerable attention, in common with all subjects connected with natural history. The habits and dispositions of animals have been made the object of rational observations and reflections; and the consequence of this has been, that, with very few exceptions, those who have made it their study have acknowledged that animals possess some portion of the reasoning powers. Other narrow-minded persons, who would fain judge of every one at the tribunal of their own bigoted notions, condemn such opinions (as well as all others that differ from their own) as atheistical and absurd. They exclaim in the pride of their hearts, What! shall we, the lords of the creation, before whom all other creatures bow; shall we acknowledge that brutes possess in common with us that faculty which we have always been taught to consider as the exclusive prerogative of man,—the test of immortality itself? No! the dignity of our nature revolts at the debasing fraternity!

There are others, and amongst them some naturalists, who, having witnessed with astonishment the actions of domestic animals, and being unable to explain them on the principle of instinct, are yet afraid to accord them the possession of reason, believing that this faculty is the token of immortality: they accordingly temporize with the matter, and endeavour to account for the actions they have witnessed by saying that “they approach or border on reason.” Now, it seems to me that it is very absurd thus to mince the matter: either animals possess reason, or they do not. Let us see if there be any thing so terrible in the acknowledgment.

Reason is defined by our great lexicographer as “the deduction

of one proposition from another," and Locke explains it in almost similar terms.

If these definitions be correct—and they have never been disputed—all we have to do is, to bring the actions of animals to the test afforded by these great authorities. Many remarkable facts are related in support of the possession of reason by animals; but let us take one of the simplest acts,—a common and every-day occurrence.

Two persons, A and B, enter a friend's house where there is a dog. A, being fond of animals, caresses and plays with the poor brute; but B, with a severe kick, sends him howling out of the room. The following day the friends enter the same habitation, when the dog runs forward eagerly to meet the one who used him well, but avoids, with fear and dislike, him who so badly treated him. Now, what faculties are sufficient to account for this conduct in the dog? He must have memory to bring before his mind the event of the previous day: but here simple recollection will stop; it will cause no overt act. But the animal associates with the presence of A the kind treatment he before experienced, and with B the barbarous usage he received.

Here we have association of ideas; but even this is not enough to prompt the act of the animal, unless we allow that he infers, from the previous kindness of the one, that he shall again receive good treatment, and from the conduct of the other, that he shall again be in danger of a kick. Here we have clearly an inference drawn by the dog,—“A patted me yesterday, he will therefore do so again to day; whilst B gave me a kick, and, if I don't take care, he will soon give me another.” Here is a clear though simple process of reason; and in no other way can we account for the conduct of the dog. I prefer resting the argument on this ordinary occurrence, rather than on any extraordinary facts that have been related; but I cannot forbear relating a singular anecdote in reference to a horse, that bears very strongly on the point in question.

In the summer of 1838, a horse was seen at the door of my forge without halter or attendant, and he was accordingly driven away by my men, who observed that he moved very lame. The animal, however, returned shortly afterwards, and was again driven away. He returned a third time, holding up his lame foot. The men, partly from whim and partly from pity, examined his foot, and found that he had lost a shoe, and worn the horn so much, that it made him lame; they therefore nailed on an old shoe, let the horse go, and he never returned afterwards. What makes the circumstance more strange is, that the men had no recollection of having seen the horse before. He had, however, no doubt, been turned out on the neighbouring common, where he had lost a shoe: in his lame state

he must have wandered into the town; had been attracted, in all probability, by the sound of the anvil; had probably been relieved from lameness before by the application of the shoe; and must have perseveringly returned to the forge in the expectation of a similar benefit. Here we have a continued process of reasoning: no instinct, nor any other faculty, could have prompted such singular conduct.

There is no greater source of error in science or philosophy than the endeavour so frequently made to make facts bend to theory; assuming certain notions as correct, and endeavouring to make every thing accord with them, and believing or disbelieving facts according as they appear to agree or differ with these favourite theories. This it is that has caused such persecution against every new doctrine which has been broached in science or in medicine, from the time of Galileo to the present day; this it is which has caused such opposition to the science of geology when it was first promulgated. It was thought to be opposed to the Scriptures, and therefore it was considered that it must, or rather ought to be, false, and was condemned accordingly. In like manner it was assumed that reason was the test and prerogative of immortality,—that brutes were not immortal; ergo, they cannot have reason.

Mr. Karkeek, in some late papers in *THE VETERINARIAN*, in reference to this matter, takes a very bold position, and one in which, although he has handled the subject with much talent, he stands, I fancy, almost alone, or, at any rate, with very few supporters. He appears to believe that reason is a token of immortality, and assumes that brutes are immortal because their actions prove that they possess the power of reasoning. I do not mean to say that this is his only ground for believing as he does, but it is one of his chief positions. He endeavours, also, to shew that the mind and the soul are one and the same, and, assuming that the immortality of the soul is proved in man, he infers that, as animals possess a mind, they must therefore possess an immortal soul.

In these theories of Mr. Karkeek I cannot join; although I fully agree with him that animals possess the reasoning faculty. At present I cannot venture to occupy any more of the valuable space of *THE VETERINARIAN* with a subject, however interesting, yet not of a practical nature; but, in my next paper I will endeavour to shew cause why I cannot concede immortality to animals, and why I do not consider the reasoning powers as an attribute of immortality.

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## INTUS-SUSCEPTION.

*By Mr. ROBERT B. RUSH, V.S., Lopham.*

I WAS sent for, at eight o'clock A.M., on Thursday, June 6, 1839, to give my opinion respecting a valuable pony, about seven years old, that was taken with pain the previous night about ten o'clock, and had been attended by a veterinary surgeon from that time, who told me that it appeared like a common case of gripes, so that he bled, and gave anodyne and aperient medicine: yet the pony became evidently worse, and I was requested to attend it.

The symptoms were as follow:—pulse 100, and wiry; respiration hurried; extremities and ears cold; great anxiety of countenance; frequent rolling, with an endeavour to get on his back; expelling small quantities of fæces with a convulsive strain, and straining after it (a symptom I have always found attending cases of twist, knots, or intus-susception of the intestines, or any immovable obstruction); and from what I could learn from previous symptoms and present appearances, I considered it was a case of spasm, followed by intus-susception of the intestines, and therefore hopeless; but the owner wished me to do something. I bled the animal, and gave anodyne medicine with castor oil, opiate enemata, stimulated the legs and abdomen, and applied bandages, ordered gruel and bran-mashes, and left it for a few hours. About three P.M., I found it much the same. I gave more anodyne medicine with castor oil, and opiate enemata; applied stimulants to the legs and abdomen, and ordered gruel, and which the pony now began to drink freely. I staid till nine P.M.

The following day, about nine A.M., I went, and the owner met me in the yard with a smile, saying the pony was better, for it had not laid down since eleven P.M.; but upon inquiry I found it had been constantly walking round the stable, frequently drinking gruel, and staling very often: there was much greater anxiety of countenance; the pulse was 120; the extremities were cold, and the skin round the eyes bedewed with perspiration; I therefore pronounced it worse, which surprised the owner; for the pony would—whenever any one came up the yard—neigh to them, as though pleased. I staid some time, giving it often opiate enemata and plenty of gruel.

About two P.M. I left, and returned at ten P.M. Finding it worse, and yet no appearance of dying soon, the owner wished some one else to see it, if I had no objection. A practitioner was called in about four A.M. on Saturday, who from present symptoms thought it more a case of disease of the urinary passages, and wished a mustard poultice to be applied to the loins, rowels in the sides, and

more aperient medicine, which was attended to ; but the pony died at three P.M. in great agony.

We met at eight P.M., for the post-mortem examination ; and on laying open the abdomen we could see no cæcum, but found it all contained in the large curvature of the colon, with its internal membrane—from deposited lymph and black blood, in some places two-and-a-half inches thick—very much thickened. The whole intestinal canal was inflamed, and some parts were mortified.

The bladder had two or three spots of ecchymosis on its internal membrane, and the kidneys were inflamed. The lungs were congested, and spots of ecchymosis appeared about the heart.

It seems astonishing that he lived so long in this state.

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## LACERATION OF THE INTESTINE.

*By Mr. JAMES MOORE, V.S., Hamilton.*

I WAS sent for on January the 16th to see a carriage-horse, the property of Mrs. Hamilton, of Bothwell Park. On my arrival, I found the horse lying stretched at full length, and covered with a cold perspiration ; the sphincter ani partially paralyzed, and blood issuing from it. As a farrier had been previously in attendance, I naturally inquired what he had done. In his own words, “the horse had symptoms of colic, and I gave him one ounce of laudanum and one ounce of sweet spirits of nitre, back-raked, and gave injections ; and when a put in ma han the second time, a fan something a never fan afore, and blood came with my han.”

On examination per anum, I found a laceration of the intestine about ten inches from the termination of the rectum, and through which my hand easily passed ; evidently shewing that he (the farrier) had thrust his hand through the intestine. I recommended the animal to be destroyed.

On examining the abdominal cavity, I found a large mass, about the size of two fists, lying in the lumbar region, directly over the vertebral column. I at first imagined it was a collection of lymphatic glands ; but a closer inspection shewed that it was connected with the posterior aorta, and it moved in every direction along with that vessel. I carefully removed the tumor along with the aorta for about two inches before and behind, and found it adhered firmly to the vertebral column by a deposit of fibrinous matter. The tumours being removed, and the finger introduced into the posterior aorta, it found its way first into a large sac, which would have easily contained a goose’s egg ; and on being carried a little farther down the vessel, three smaller cavities, varying in size from a hen’s

## 250, ERYSIPELAS IN COWS, TERMINATING IN GANGRENE.

to a pigeon's egg, were discovered. On laying the tumours open with the scalpel, I found them to be aneurismal. The first and largest was filled with numerous layers of clotted blood, and a quantity of a curdy-looking substance, apparently some preparation of lime. These being removed, the coats of the artery were found completely destroyed, and the walls of the sac formed of the lining membrane of the abdomen thickened by inflammatory action: in the three smaller tumours the arterial coats were all perfect, with the exception of the dilatation. The aorta, for a few inches before and behind the situation of the tumour, was studded over with patches of osseous substances, about the size of a sixpence; but all the other arterial trunks examined were perfectly normal, as well as the heart and its valvular apparatus. The liver was inflamed, and easily broken down, which, in my opinion, was the cause of the colicky symptoms. All the other viscera were in a healthy state.

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## ERYSIPELAS IN COWS, TERMINATING IN GANGRENE.

*By Mr. F. KING, sen., V.S., Stanmore.*

IN one of the numbers of THE VETERINARIAN, I think the latter end of the year 1838, in a communication from a French veterinary surgeon on cow pathology, is an account of a disorder which, from some of its described characters, exhibited so strong an analogy to a very uncommon case which I attended and well remembered, that I was induced to turn to my memoranda of notabilia, and give you the history, more from its curiosity than any hope of practical utility.

I was sent for to the brewery at Rickmansworth, belonging to Mr. Salter (since deceased), the messenger stating that one milch cow had died the preceding day, and that three other cows were seized with the same disease.

On my arrival, I was shewn three cows strapped to a crib, in the usual manner, under a well-littered open shed. One or two of them were eating some hay. They appeared healthily full in their bodies, with sleek coats; and as I entered the shed from behind, taking perhaps a too hasty view, I inquired, "Are these the animals I am come to see?" A veterinary friend, Mr. Sibley, who had attended the first case, was present; and he replied, "Wait a bit, and you will soon see." The complaint quickly became manifest, and seemed to consist in an excessive itching of the skin immediately surrounding the throat, and extending up-



ward toward each ear, which the animals were prompted to allay by violently rubbing their throats along the top rail of the crib, from one side to the other, as far as the ties would allow of the movement, in manner somewhat like a weaving horse. When roused, they desisted for a short space. I now began to examine them more particularly, but could not make out any indication of constitutional disorder. From the repeated rubbing, the hair began to fall off, the skin looking very red, and almost covered with a yellow serous exudation.

Mr. Sibley and I then had some conversation as to the nature of the malady. His opinion was, that they had been bitten by some venomous reptile, as the foddering-yard had very lately had a quantity of stubble brought into it. I did not fall in with his opinion, but thought it depended on some intense local irritation, which I admitted I could not readily account for. We, however, determined on giving cathartics, scarifying the throat and surrounding parts, and frequently washing the surfaces with vinegar and water. Two hours had now elapsed: the integuments were evidently more tumid, the detrition of the hair and cuticle much extended, and the skin exhibiting a deeper colour, approaching to a purple hue. There was no difficulty or noise attending the breathing while I was present. I left them, saying I would see them again the next morning. I did not get there till noon, and to my surprise they had all three died before morning; and such was the dread of infection, that they were all disposed of immediately, so that I had no opportunity of ascertaining whether suffocation or gangrene had any thing to do with the cause of death: I could only learn that, after I left, the desire to rub became more urgent, and that the infiltration into the surrounding parts kept increasing. I was asked to assign a cause; and I at once said it was erysipelas, terminating in gangrene. Could I have given, under the circumstances, a more satisfactory explanation?

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## ATROPHY OF THE LUNGS.

*By Mr. S. WHEATLEY, V.S., Staindrop.*

THE following is a case of complete destruction of the lungs in a mare, similar to one described in THE VETERINARIAN of November last, by Mr. T. Darby, Louth.

This mare was purchased from a neighbouring farmer in February 1839, and, never having been known to be previously unwell, was warranted sound. She was now used by a carrier in this place, to travel about eighty miles per week with a waggon. She was

rather low in condition when bought, and afterwards had a more liberal allowance of oats, &c. In May, she was taken very ill on the road to Newcastle-upon-Tyne, and remained at that place some days under medical treatment. When she returned to Staindrop, she was in a very weak, reduced state, and quite incapable of working; consequently she was turned out to grass. After some time, no improvement being apparent, fault was found with the pasture, and she was then removed six or seven miles distant, to rich good herbage. Here she was observed not to graze, like the other horses in the field, but she would hang about, and seemed heavisome.

On July the 24th, I was sent for to this place, as she was taken very ill. She had been bled previous to my arrival, and from four to six quarts of blood had been taken away. I gave her sedative medicine, and saw her the following day. The heaving at the flanks was not so hurried as on the 24th; but the same dull haggard appearance remained, and the least quick movement gave her distress, somewhat like unto a broken-winded nag.

A dispute having arisen with the parties concerning her, she was in a day or two removed, and I did not see her again till I was called to examine her on the morning of the 12th of August, she having died the day previous.

The contents of the abdomen did not shew any thing unusual, only the liver was a little pale and soft. The cavity of the thorax was amazingly filled with a milky-like fluid; but the most remarkable circumstance in the examination was, that no lungs could be discovered,—the whole of the lungs had dissolved away. I was quite astonished at this state of the chest. There was some thickening of matter about the division of the windpipe of a morbid or offensive nature, but not a portion of lung whatever remaining.

This animal was a large grey mare, rising six years of age, and of a sluggish appearance. Previous to her falling unwell on her journey, she had been noticed to purge, as though she had had physic, which the owner attributed to changes of food on the road. In this case I am inclined to think she had never cast off her first attack. Has her dissolution been gradually going on for that length of time? This case led me to conclude that life may be sustained, though but a very inconsiderable portion of lung may remain. It is probable that what little sustained life might have wasted away in the fluid in the intervening time of death and my opening her. In conclusion, I beg to say, that I have given only a hurried account of the facts of the case; but I was induced to send it from reading one similar, communicated by Mr. Darby.

There were some lumps of (I don't know what to term it) con-

gealed matter floating in the fluid contained in the chest. It was a strange, almost incredible, sight. Could her last attack have brought about all this, from July 24 up to August 11th? Although the mare was constantly in the neighbourhood, I never particularly noticed her till July; and then I did not suppose ought of this: yet I was satisfied her complaint was in the chest.

In your comments on Mr. Darby's account, some cases of wasting away of the lungs, &c., are recorded, and regarded as most unusual occurrences. Probably some of the readers of your Journal may have observed similar cases. I am sorry that the case of this mare has not fallen to abler hands than myself, so as to be satisfactorily explained.

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## STRANGLES, THE CONSEQUENCE OF MORBID NASAL SECRETION AND PRODUCE OF DISEASE IN THE MESENTERIC GLANDS.

*By Mr. SAMUEL BROWN, V.S. Melton Mowbray.*

AS an inflammation of the pituitary membrane is usually the precursor of the local tumour and abscess called strangles, we may regard the tumefaction and abscess as the effect of a morbid nasal secretion; as cases of catarrh are met with in practice, in which the sublingual glands have become tumefied and painful to the animal when touched, yet these tumefactions occasionally subside if early and proper remedial measures are adopted, when the nasal secretion assumes its healthy character. But when the inflammation of the mucous membrane lining the respiratory passage and mouth assumes a higher degree of inflammatory action, the secretion becomes viscid, acrimonious, and purulent, which is evidently taken up by the absorbents, as they become corded on the sides of the face, where abscesses are frequently formed, when the cellular tissue between the angles of the jaws is so much tumefied as to retard this morbid fluid in those vessels. The probability is, that this morbid secretion is conveyed through the absorbent vessels into the circulating fluid, and the local tumour and abscess, which we regard as the sequelæ of strangles, may supervene as a necessary consequence of the animal œconomy.

When the abscess is confined to the external cellular tissue, there is but little danger of the animal's recovery, as the requisite treatment consists in opening the abscess, giving vegetable tonics, and supporting the patient with a liberal and nutritious diet. But it sometimes occurs, that the abscess is deep seated in the cellular membrane between the spine and the œsophagus, about the fifth or

sixth cervical vertebræ, which circumstance endangers the life of the animal by forming a mechanical obstruction to the œsophagean canal. Of course, the proper treatment in these cases, is to support the animal with nutritious fluids until the pus can be evacuated by opening the abscess.

But the recognition of the formation of an abscess in the vital organs, the mesentery, or mesenteric glands, is at present involved in obscurity; and if you imagine that the following successful case (which I suppose was a tumefaction of a mesenteric gland) should be calculated to shed one single ray of light on so important a subject, you are at liberty to give it a place in the next number of *THE VETERINARIAN*.

On the 5th Sept. 1839, my attendance was requested to a grey mare, which some time previously had been attacked slightly with strangles. She was occasionally lying down, and slightly off her feed, as if labouring under some chronic abdominal pain. As her pulse was not much disturbed, or the bowels confined, I was not apprehensive of its being a formidable case, and modified the treatment with fever medicines and an occasional alterative dose of calomel, down to the 14th, at which period an oily mixture was given, which acted freely on the bowels, and while the aperient was operating, it apparently effected a remission of the abdominal pain. But when the fæces became of their natural consistence, after the cartharsis, the mare was generally down, and turning her head to her flank; the pulse began to vary, both in tone and frequency; the appetite became more impaired—the eyes dull—the countenance depressed—and the coat staring, and harsh to the feel.

Although the attack of strangles had been a slight one, we began strongly to suspect that the case was one of the sequela of that disorder; and when we observed a small pellet or two of excrement that had been voided, and which was covered with thick mucus, and compressed as if it had been retained in a contracted portion of the bowels, these suspicions were in some measure confirmed. This circumstance, coupled with the other indications of abdominal pain, led me to suspect an enlargement of a mesenteric gland or glands, and induced me to point out to my employer what I supposed to be the nature of the case, and also to suggest the propriety of testing the effect of the hydriodate of potash.

On the 19th, half a drachm of the hydriodate, and a drachm of powdered ginger were formed into a ball with linseed meal and treacle, and given daily for several days, until we perceived some slight remission in the symptoms; after which some gentian and Peruvian bark were added to the formula, and given every alternate day till the 10th of Oct., at which period we considered the mare sufficiently recovered to discontinue the medicines.

After the medicines had been given a few days the pulse began to improve, the eyes to brighten, the coat to feel more healthy, and the mare was not so frequently down ; but her appetite did not much improve until the tonic medicines were given ; after which she began to feed well, and was ultimately got into excellent condition, and sold for fifty guineas, when I lost sight of her, and have not heard of her since.

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## HÆMOPTYSIS.

*By* CHARLES PERCIVALL, *Esq. V.S. Royal Artillery.*

A GENTLEMAN residing in my neighbourhood requested my attendance on the 4th inst. in consultation with Mr. ———, upon a grey mare, with hemorrhage from the lungs. The mare, I was given to understand, had been attacked with bleeding from the nose on the 1st instant, which the owner (notwithstanding the mare had lost six or seven quarts of blood) considered of no consequence, thinking she had received a blow or some injury on the head. Mr. ———, a practitioner on the spot, was, however, called in, who did nothing but administer three two-scruple doses of digitalis. A return of the hemorrhage exciting the alarm of the gentleman, I was accordingly sent for. Upon my arrival, I found blood sticking about both nostrils, the walls of the box, in which the mare was running loose, besmeared in every direction, and between three and four quarts in the manger, with every appearance of a considerable quantity diffused amongst the litter. Still the mare did not appear faint or much affected by the loss of blood. The breathing, chiefly the expiration, was attended with some degree of difficulty—the extremities and surface of the body very cold—mouth warmer than natural—pulse between 60 and 70, beating with that degree of force which did not denote a weakened or debilitated system. In consulting with my brother practitioner, I expressed a wish to have the mare bled, *and, quietly*, a little surprise that he had not made use of his lancet before. He replied, he was afraid so to do, thinking she was too much weakened by the blood she had already lost. I did not hesitate, however, to open the jugular vein, and extracted, somewhat to his surprise, rather better than six quarts of blood, which she bore tolerably well ; the legs being, as already stated, icy cold, I recommended their being well stimulated with equal parts spirits tereb. et ol. lini., to apply flannel bandages, and administer half an ounce of Barbadoes aloes, and to follow this up with small doses until the bowels were freely open ; upon which I took my leave, as I supposed, of the case, not wishing to interfere

with my colleague. The following morning I received a letter from the gentleman (his servant having given him to understand I did not intend to visit the mare again unless sent for) stating, he did not feel satisfied with Mr. —, and requesting me to take charge of the case, expressing a wish to see me, being from home when I attended in consultation. In compliance with his request, I accordingly visited the mare again this morning. There was an appearance about the nostrils, as well as the sides of the box, of a return of the hemorrhage, but of a very trifling nature. The extremities and surface of the body still very cold—the respiration more difficult. Pulse 75, small and weak; and the mare dull, being much dissipated.

Being apprehensive that disease was going on within the chest, I inserted rowels, repeated the stimulant to the legs, and gave small doses of aloes.

6th.—Breathing much the same, extremities still cold, a small quantity of blood sticking about the nostrils. Pulse 70, and oppressed; mouth hot. Repeated the stimulant to legs and the aloetic ball.

7th.—Pulse 65; soft, and beating with more freedom. The off fore-leg and the near hind ones warm; the other two cold, but somewhat warmer than yesterday; respiration less difficult; but slight appearance of any hemorrhage. Mouth hot, but, upon the whole, appears better. The stimulant repeated to the two legs which were cold, and enemata frequently.

8th.—Respiration less difficult. Pulse 60, soft. Extremities and surface of the body warm. No appearance of any hemorrhage; bowels relaxed; mouth cool, moist, and comfortable.

9th.—Pulse 60, soft. Extremities and surface of the body warm; respiration more tranquil; appears more lively, and better; slight discharge of mucus from both nostrils; bowels relaxed. Gave digitalis 3ss, antim. tart. ʒi, potass. nitras ʒiij, morning and night.

10th.—Pulse same; but slight discharge from nostrils; eager for food; very much better. Ball repeated morning and night.

11th.—Pulse same. No discharge from nose; much better. Being very eager for food, allowed her a little hay for the first time since her attack, having had nothing but bran mashes and a small quantity of carrot.

12th.—Pulse 54; soft. Much the same; ball repeated.

13th.—Pulse 50. Much better.

15th.—Pulse 42; intermittent. Feeds well.

17th.—Pulse regular. Convalescent.

This mare formerly belonged to a livery stable keeper, residing at Reading, in Berkshire, who was in the habit of hiring her out



to gentlemen for a day's hunting, and she had been, I am given to understand, much abused, as is generally the case with a hired prad. Shortly before she came into the possession of her present master, she performed a journey of forty miles, notwithstanding she had been severely hunted the day before, and was from hard work much reduced in flesh. Upon falling into the hands of the present owner, she was turned into a loose box, fed upon bran mashes and carrots, &c. for five weeks, merely having an hour's exercise daily, and had much improved in flesh.

Being at a loss to account for the pulmonary rupture, having been in a state of quiescence upwards of five weeks, upon inquiring if she had any cough, both groom and master replied in the negative, but stated that when taken out of the stable to exercise, they had observed her to snort a great deal, and with more violence than they ever remember to have heard a horse before.

Royal Horse Infirmary, Woolwich, March 18, 1840.

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## DANDELION ROOTS, FOOD FOR CATTLE.

Kildare, March 16th, 1840.

SIR,—I have observed a cow to get into good condition by feeding for about three weeks this spring upon dandelion roots, turned up by the plough and harrow. Should you think the fact worthy of notice, it will afford me satisfaction to know the same through THE VETERINARIAN.

Your obedient servant,

JOHN SCOTT, V.S.

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## OBSERVATIONS ON NEUROTOMY.

*By W. PERCIVALL, Esq. V.S. 1st Life Guards.*

IN the year 1823, I was enabled, by the kind assistance of the originator of this important and useful operation—the present Professor at the Royal Veterinary College—to write a lecture replete with information on the subject of neurotomy, such as had not then been given to the public. That lecture I concluded with the following words:—"Its objects being thus circumscribed, we dare prophecy, that neurotomy will be known as long as the veterinary art: it has hitherto stood the test of this capricious age, and weathered out the storm of discordant opinion;—it has ranked high in the estimation of its enthusiastic advocates;—it has fallen into disgrace and comparative dread with those who have misapplied

it ;—it has now to rise to a certain point in the scale of veterinary surgery, where it will remain in despite of all future controversy.” I will now ask, Have my words proved true or not? Has neurotomy been cast aside, and no longer practised on account of its being “a torture,”—“an ineffectual operation,”—“a remedy worse than the disease;” or has it become a means of cure to the rejection of remedies before in use, and that are known to be serviceable, and so long as they prove curative? No judicious practitioner, I will venture to affirm, would recommend a horse to be neurotomized whose case admitted of cure—nay, even of relief—by other means: at least, if he did, with the fruits of all the experience we now have before us, I should say, his judgment would stand chance of being impugned. On the other hand, the same sagacious practitioner would not, in the face of the same experience, dream of blotting such a potent and valuable aid as neurotomy out of his catalogue of therapeutic agents. Many instances are recorded of fractured foot-bones and cast-off hoofs, after the operation, or—if anti-neurotomists like—in consequence of the operation; but is this occasional, or rather fortuitous, evil, to debar us from doing a great good? because one man happens to die from the operation of lithotomy, are we to permit all patients with stone to straddle in pain and suffering to their graves? If such sufferers were told that the operation was but 20 to 1 in their favour—and it is more than that—yet would they not rather submit to it than live out their lives so uncomfortably and wretchedly? Could we hold forth the same argument to our own patient—could he but understand it—think you that he would not rather be twice neurotomized than be compelled to limp along in his work upon his lame and painful foot? And to him, poor fellow! the argument comes with a great deal stronger force; for his choice is between neurotomy and death. *His* master says, “Unless I can render my servant useful to me, I shall have him shot: I cannot afford to keep him doing nothing.” The pain—the asserted “torture”—we put our servant to in neurotomizing him, is, as an argument, not worth consideration; for, in the first place, it is not so very painful an operation; and, in the second, there are other operations a great deal more painful which we perform, and with the sanction, too, of these pretended philanthropists, every day; which are nicking and firing. And is not the painful operation for *tic dolooureux* performed, without hesitation, on man, to relieve a greater pain? Why, then, should we not be allowed to sever horses’ nerves as well as men’s?

But, as I said before, no man of sound observation and judgment will think of resorting to such an operation as neurotomy, with all its acknowledged uncertainty of event, until he has given every trial to other means of cure: by such cautious and wise pro-

cedure will he defend himself from every shaft of censure which unsuccessfulness or untoward consequencess might cause to be directed against him: he will, in fact, have so fortified himself in his own castle, that the direst enemy of neurotomy will attack him in vain upon the score of his failures; while he is holding forth the flag of success, multiplied many folds by the lists of his cures.

Time—that leveller of all things and persons—never fails in the end to disclose to us the true value of every innovation or discovery; and it has now done this with neurotomy: the operation stands completely unmasked—divested on the one hand of all the flowery prospects which the fond views of its advocates had attached to it, and on the other rescued from that undeserved oblivion into which its opponents would fain long ago have hurled it. No one now-a-days regards neurotomy as infallible; no one would think of recommending its performance in every case of foot lameness; no one, I repeat, would operate at all, until all other measures had been tried in vain.

In the autumn of the year 1837, Lord W. B. shewed me for my opinion a brown horse, lame in the foot, 16 hands high, and full of strength and breeding, and worth, sound, at least 200 guineas. It proved a case of disease of the navicular joint. Large and repeated blood-lettings from the lame foot, succeeded by blisters upon the pastern, and long rest, removed the lameness; but work invariably caused a relapse. He was naturally a pigeon-toed horse, both in standing and action: in fact, his only fault lay—where imperfection but too frequently lies—in the formation of his fore legs. In July 1838, his lordship, tired of fresh attacks of the lameness, said one morning to me “P., I am resolved to have the brown horse nerved—what think you of it?” “Why, what I think of it, is this,—that it will probably restore him to soundness; but that, should you intend to hunt him, you may one day or other come down, horse and all, and meet with some very serious accident.” The horse was neurotomized, and became quite sound, and remained so, his lordship riding him in the interval as charger, until March 1839, when he fell lame in the other foot. His lordship being away at the time, I treated the lameness by blood-letting from the arm, warm bath, and poultices, and was in this mild manner amending the case, when Lord B. returned. It being just at the season of the year when a charger is indispensable, and my patient’s master being impatient, and inflexibly set against any more long doings, I was, at his instigation, prompted once more to have recourse to the knife. The horse was now neurotomized in the other, the near fore-leg; and with the same success as before. After this, he went on doing charger’s duty until last January, when he fell lame in the off fore—the foot that was first operated on. For this, warm

baths and poultices, and a sweating blister afterwards, were ordered, and all became well again. A few weeks afterwards, having only been exercised in the interval, he however once more failed in the off foot, though he trotted feelingly upon both. Warm baths and poultices, and rest without his shoes, have again restored him sufficiently to shew at an auction, a destination to which I have at length counselled his owner to send him.

In the same month, July 1837, on which I operated on the above-mentioned, I neurotomized a horse I had given me by a captain of our regiment, having on him at the time navicular disease of the near fore foot, and being dead-lame in consequence. He arose from the operation sound, and has remained so in my stable ever since. I now ride him three or four or five times a week, never sparing him, as a hackney about town; and he has on no occasion shewn any failing whatever upon his fore feet or legs, which were at the time of the operation, and still continue, remarkably clean. He is a thorough-bred horse: he was got by Whisker out of Castrella. His own brother ran Memnon second for the gold cup at Ascot. In consequence of which, Chifney, all in a hurry, went and bought him at the extraordinary price of £1400, and afterwards found he had no run in him; and so, was obliged to dispose of him at a very reduced rate—£200. His former master, who gave that for him, has since ridden him, and declares him as perfect in his action and performances as in his best days, prior to the lameness.

Mr. Thomas Turner had a horse of his own on whom he operated, and afterwards rode him two seasons hunting, and with as much confidence, I have heard him say, as though he had never been the subject of lameness or operation.

These are facts, broad facts, incontrovertible facts; and such as will make an imposing show against any mishaps, or unfortunate and unavoidable circumstances, that may have attended or followed neurotomy. Notwithstanding, I must confess, I am not myself an advocate for hunting neurotomized horses. I think every man who rides or drives such a horse, should on all occasions bear in mind, that he is using an animal deprived entirely or in part of sensation in his foot or feet, and that, therefore, he is not justified in taking the same liberties with him as he would with a perfectly sound horse.

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## IN-DOOR SYSTEM, IN LIEU OF PASTURE, FOR CATTLE AND SHEEP.

*By* NIMROD.

ON returning to Melton Mowbray one day last season, after a run with the Queen's hounds, in company with a celebrated sportsman then on a visit to the Earl of Wilton, the conversation turned to the superior condition of hunters, and the comparative diminution of suffering by them, in their work, over those of by-gone times, the effect of the in-door system of summering, together with improved grooming in the winter. I remember saying—not irreverently, I hope—in allusion to my Letters on the Condition of Hunters, that I expected my sins would be forgiven me in consideration of my successful efforts to alleviate the sufferings of so noble an animal as the horse, given to us, without doubt, for our pleasure and use, but not as the object of our abuse. Happy am I, then, to find, that what has been written and said on this subject has opened the eyes of scientific and thinking agriculturists to similar advantages of the in-door system to both neat cattle and sheep. My Lord Western has called public attention to the advantages he has experienced from keeping his sheep in the house, whilst those of other people have been abroad. A correspondent in the *Mark-lane Express*, a few weeks back, bore similar testimony relating to sheep and cattle; and in the same Journal, of the 24th ult., is the following interesting Letter, detailing the advantages of the in-door system in the prevention of one of the most destructive diseases to which young neat cattle are liable in our uncertain climate:—

*“ To the Editor of the ‘ Mark-lane Express.’ ”*

“ Sir,—In answer to a question put by a ‘ Derbyshire Farmer,’ for the best remedy or preventive for the quarter evil, or what they term black leg in yearling calves, from my own experience this last winter, I have 33, kept in three different parts, 13 of which are turned into a shed by night as early as the third week in September, served with a little hay and fresh littered every night, turned into the pasture by day: this was followed up till the middle of November; then they were tied up by night, served and fresh littered as before: of those I have not lost one. They have been particularly healthy, and thrive much faster with less food than those out of doors. Of 11 others that were hayed in their pasture as early as those in house, I lost one in the quarter evil; of nine more, managed precisely the same as the 11, I lost one; so, judging

from the different treatment of the 33 calves, I feel perfectly satisfied it is from being exposed to the chilling winds in the autumn, and lying on the damp ground, that causes the chill in the system. After they are once seized, there is no cure. Depend on it a preventive is better than a cure. The preventive, I consider, is dry feeding, and laying (lying?) as early as the third week in September.

“ I remain, your’s, &c.

“ A YEOMAN OF DORSET.”

At the present moment I have only leisure to express an earnest wish, that the veterinary profession will turn their attention to this very material point, as regards the welfare of the agricultural world; at the same time, I express my opinion that the day will come when the in-door system of keeping cattle and sheep will become general in Great Britain; and, moreover, that, despite the prejudice of landlords, practical agriculturists will be convinced, that the less of what is called moderate meadow-land they have in their occupation, the better will it be for their stock, and, consequently, for their pockets.

NIMROD.

## PUNCTURED WOUNDS OF THE NAVICULAR JOINT SUCCESSFULLY TREATED BY NEUROTOMY.

*By Mr. HARRY DAWS, Gresse Street.*

A YOUNG bay mare was received into my infirmary on the 10th July, 1838, with a puncture of the near hind foot, which she had received from a nail accidentally picked up in the street whilst engaged in her usual work.

The nail had pierced the navicular joint through the outer commissure, in a backward and upward direction.

The lameness was considerable, and much constitutional derangement supervened. Antiphlogistic measures were adopted. A copious discharge of synovia flowed freely from the wound in the foot for some time. It was at last arrested by the pulv. alum comp. Various ulcerations in the heel and around the coronet now ensued: they, however, in due time yielded to the treatment adopted.

From the time the animal received the injury, she never put her heel to the ground.

A patten shoe was applied to the foot, in order to induce her to throw a portion of her weight upon the affected leg.

*Aug. 1st.*—The wounds are all cicatrized, the horny sole has sloughed, and a new one has been secreted in its stead. The lame-



ness is still very considerable. She is removed to a small paddock, to have the benefit of taking voluntary exercise, the patten shoe being lowered by degrees occasionally.

Very little benefit followed this plan of treatment.

*Sept. 14th.*—Remaining in the same state, and no appearance of improvement, I suggested to her owner the propriety of neurotomy, to which he readily consented.

The operation was performed above the fetlock joint ; and I have now the satisfaction of frequently seeing that which had been deemed a hopeless and incurable case perfectly recovered, and the mare pursuing her accustomed labour.

Another case, which occurred to a bay horse, exactly similar to the foregoing, may not be unacceptable.

*March 12th, 1839.*—The near fore foot was the one injured in this instance : similar results followed, save that there was no ulceration above the hoof, and the treatment exactly corresponded with the former case.

*June 1st.*—He had been blistered and turned out without benefit, and the symptoms presented were those which other horses exhibit when suffering from chronic navicular disease.

The operation of neurotomy below the fetlock joint was resorted to in this instance, and with results equally as successful as the former case.

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## FEVER, WITH CRITICAL ABSCESES.

*By Mr. JOHN CORBETT, V.S., Simonburn.*

A DRAUGHT mare, the property of the Rev. W. Elliott, rector of this place, July 31st, 1835, had been slightly indisposed for three or four days previous to this day. The symptoms, in very many respects, simulated catarrhal distemper, with hurried breathing ; pulse 70, mouth hot, extremities warm, appetite for food in a great measure lost, which consisted of lucern, tares, &c. ; but she drank water freely. She likewise had a trifling cough ; and the bowels were a little confined, with much rumbling.

*Treatment.*—I bled to the extent of six quarts and a half, and gave 3 drachms of aloes combined with the usual fever medicine, nitre 6 drachms, tartar emetic 2 drachms, digitalis 1 drachm, twice a-day. I gave the fever medicine, with frequent injections of soap and water ; in fact, little passed but what followed the injections for six days.

*Aug. 1st.*—Much the same ; ventured on the addition of 1 drachm of aloes ; appetite gone, although the mare drinks freely.

2d.—Much the same; pulse 68; takes a little of the tares which were substituted for the lucern; the difficulty of breathing continuing, I added 2 drachms of aloes to the medicine.

3d.—Symptoms highly aggravated; pulse 90, with singularly corded feel; the breathing very quick; the extremities quite warm; no appetite. I took seven and a half quarts of blood, when she seemed triflingly affected by its loss. Gave in addition to the fever medicine 2 drachms of aloes; bowels still confined.

10 P.M.—The case seemed serious, and the pulse had again acquired all the hardness, &c., which it was in possession of in the morning; the blood last drawn exhibited much buff again. I opened afresh the same orifice, which bled freely until she began to stagger, but not until she had lost eight quarts.

4th.—Looks more lively, and in many respects much the same; bowels confined: gave 3 drachms of aloes in addition, with injections. Towards evening I observed an enlargement over the insertion of the biceps femoris, hard and painful, into which I rubbed a little volatile liniment.

5th.—Much the same; ventured on another 2 drachms of aloes, in addition to the other balls. Up to the 12th, I had given 22 drachms of aloes, with injections, &c. (and had the limbs kept warm), and never yet were the bowels in the least moved. On this day I found the tumour, and dressed it for three days with the turpentine liniment, and, lastly, with a mild solution of zinc and acetate of lead. Thinking her considerably better, I now discontinued the treatment, and was preparing her for a dose of physic, when, on the 14th, on the opposite side, another tumour appeared, which exceeded in size its fellow one, and contained one pint of pus, which was not evacuated until the 29th: it all along remained hard. At length, getting tired of fomenting, &c., I plunged my lancet into it an inch or so, but which was not deep enough to reach the matter. From this time she did well. I neglected to say I inserted two rowels in her chest on the second day, and likewise to mention an enlargement commencing at the udder, which ran rapidly along the belly up to the most posterior rowel, and which swelling hung long by her, in spite of scarifications, &c. &c. Please say if these enlargements were the sequel of distemper. The extreme torpidity of the bowels would suggest some other cause, as we generally find them singularly irritable in distemper. Although it is my usual practice to give aloes, I have never seen harm done by the use of it; but I don't give it in alterative doses, lest I should surcharge the system, and produce superpurgation; I at once give from 2 to 6 drachms, according to circumstances.

A disease incident to milch-cows is very prevalent in my neighbourhood, denominated fog-ill, occasioned by being turned out on

the after-math, particularly when luxuriant. The symptoms are— heavy moaning, distressing cough, or hoost; limbs warm; disinclination for food or water; pulse not much affected; and, in many, the sides much fallen: in few, indeed, any hoven. From the symptoms, I considered the lungs, in a great measure, the seat of complaint, and, of course, I treated the cases vigorously as such, until, in the year 1837, five cows, belonging to Mr. Oliver Ramsay, of Wall, near Hexham, became very alarmingly affected. One of these alone was bled, and had half a pound of salts, with an ounce of ginger; the others were treated by stimulants alone, say ginger 2 ounces, caraway 1 ounce, gentian 1 ounce, in a decoction of chamomile twice a-day, for four days. All rapidly recovered: the one that was bled did not recover sooner than the others. If these symptoms depended upon inflammation, what would have been the fate of these cows? But since I invariably adopt the stimulating plan, and often add 1 pound of salts or so. The symptoms seemed aggravated when descending a hill, and it is singular the milk was not so particularly diminished as the apparent distress the animals laboured under would lead one to fear. The above-named gentleman is singular for his intelligence in the treatment of cattle, as a farmer. He, in a great measure, was the cause of my deviating from my old plan of bleeding, purging, counter-irritants, &c. &c.

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## ON STRINGHALT.

*By Mr. J. M. HALES, Oswestry.*

THE draught of the paper which I now send you was written immediately after the publication of the case of the race-horse "Guildford," in THE VETERINARIAN of August 1838, but was thrown by and nearly forgotten: perhaps it may find a place in next month's number, if thought worth that much consideration.

The curious case of Stringhalt, reported in THE VETERINARIAN for August last, brings to my mind some cases of that peculiar disease which occurred within my observation several years ago, in which stringhalt followed local injuries done to the hock. I shall, in the first place, give a short history of three cases, which very much attracted my attention at the time, and then make a few remarks respecting them, as bearing on the opinion of Mr. Spooner relative to the morbid state of the sciatic nerve. In commencing the detail of the cases alluded to, I shall, perhaps, be excused for taking an extract from my note book made fifteen years ago.

"Stringhalt I believe to follow considerable local injuries to the hock, oftener than professional men in general seem aware. I was

taught to consider it a disease which originated without any assignable cause; and though this, probably, may be the case in many instances, yet cases have latterly come under my observation which tend to prove that local injuries will produce the disease."

CASE I.—A gentleman had a grey horse which threw out two curbs after a heavy day's hunting, and was lame on the near leg. Discutient applications were made use of in the first instance, and then a blister was applied. In a short time the lameness was removed, but he was found to be stringhalt on the leg that had been lame. The fact of the horse being perfectly free from stringhalt before he threw out the curbs, and that affection remaining after he became upright, induced me to suppose that there was some connexion between the injury of the hock and the stringhalt, and the horse was again blistered with evident advantage; and by keeping up a stimulating plan of treatment to the hock for some time, the stringhalt was removed, and the action of that limb became the same as the other. The horse remained well till the next season, was hunted, and continued his work through a good part of the season; but at last the curb and lameness returned, and after its removal he was again stringhalt, which was a second time cured by the same treatment as before. A third time the horse became lame in the hock, which being got rid of, he a third time was stringhalt. The gentleman to whom he belonged now said he would take no further trouble with him; put him in harness, and drove him in his gig for several years. He remained free from lameness, but the stringhalt continued.

CASE II.—A fine bay horse was blistered by a country farrier for curb; and there being some corrosive substance in the blister, it produced great inflammation and sloughing, and when the horse recovered from the injury he had thus sustained, his hock was greatly blemished, and he was stringhalt. No means were taken to endeavour to remedy this defect, and he continued stringhalt.

CASE III.—A grey mare, in leaping over a timber fence, struck the front part of her hock against it: a good deal of inflammation was the consequence, and the mare became lame. The usual means of subduing inflammation were resorted to, and afterwards a sweating blister was applied. The mare became perfectly free from lameness, but stringhalt was left behind. I wished in this case to have tried the means which were successful in the first case; but the owner did not seem to trouble himself much about it, and the mare was stringhalt all the days of her life.

In the above recited cases there can be little doubt but that the stringhalt was the result of some injury or inflammation of the nervous trunks supplying the hock; and as they have their origin from the sciatic, it may naturally be inferred, that, probably in the

first instance from sympathy, and afterwards by the continuation of the diseased structure through the course of the nerves, the sciatic becomes implicated, and its function disordered, and, as a consequence, produces that unequal action between flexors and extensors which we denominate stringhalt. It appears from Case I, that the local injury may continue some time without any permanent disease being produced in the nerve, and even remedied; for twice the stringhalt was removed, and only returned upon a fresh injury being done to the hock. At this time I should consider the stringhalt as a sympathetic action of the sciatic with its suffering branches at the hock, which ceased when these were relieved; but when the spasmodic action of the limb became confirmed, the probability is that the trunk of the sciatic became permanently affected, as was found in Mr. Spooner's cases. I admit these are merely speculative opinions, unsupported by any examinations after death; but cannot help thinking they have a tendency to support the doctrine as laid down by Mr. Spooner.

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## CÆSAREAN OPERATIONS IN COWS.

*By Mr. J. HAYES, V.S., Rochdale.*

I HAVE performed and assisted in the operation (Cæsarean) in nine cases, five of which were successful, and four terminated unsuccessfully.

My first case was in the month of May 1824. My practice being in a large dairy district of Cheshire, I had very frequent opportunities of attending cows, and under difficult parturition in particular, for which I was no little notorious. Such difficult and laborious cases caused me to set my wits to work, and induced me to try many experiments; one result of which was a method of embryotomy, as described by me in THE VETERINARIAN for 1833, vol. vi, p. 195. That method has rendered me incalculable satisfaction. Another method was the trying to remove the foetus through the cow's side. Myself and another procured a bitch at her time of gestation; we cut through the integuments, peritoneum, and uterus: the incision was about three inches long from above downwards, a little lower down than I afterwards found more proper in these cases. We abstracted six young puppies from the uterus, all alive, but one died the next day; the others were suckled by the bitch, and grew up. The mother was very ill for two or three days after the operation; she had laxative medicine administered, and adhesive straps and plaisters were applied to the wound. She recovered in six weeks.

In March 1825, I had an opportunity of trying this operation on

a cow, for the first time I had either heard of or seen of any such thing being done. The cow belonged to John Clark, of Ashley Dairy-house, Cheshire; she had been in very violent labour for two days and one night, during which time she had been attended by three or four persons considered well versed in these matters, all of whom had tried to the uttermost of their skill and power, but without success: they then gave it up, and I was sent for. I found the fore feet of the calf protruding: much force had been used by the parties in endeavouring to bring it forth; the head could not be brought into the passage. After examining as well as I could (for the vagina was so very much swelled and dry that it was with difficulty I could introduce my hand), I commenced to remove the fore legs and scapula; after which I laid hold of the head of the calf, but found it so large that it was impossible to bring it through the pelvic cavity. This circumstance I stated to the owner, and added, that the only chance I had left was to take the calf out at the cow's side. He immediately consented I should do as I thought proper, as he considered the cow must certainly die under almost any circumstances, she being then in an exceedingly exhausted state from the duration and painfulness of the labour, as well as from the force, &c., which had been used. I operated on her much after the same manner as Mr. Chretien, as stated by you in the last number of *THE VETERINARIAN*, though I never had seen or heard of such an operation on a cow before. My method differed little, except in the after-treatment I used sutures to the internal incisions, but adhesive straps to the external integuments. The calf when drawn forth had a strange appearance; its head was more than twice its natural size, but its hind parts were so very small, that they appeared as if wasted by absorption, being no larger than the hind extremities of a common sized dog. The second day after the operation she appeared doing very well, until the twelfth day, when she gave up eating, and died in the space of a few hours after she had shewn any unfavourable appearances.

On examining her half an hour after death, we found a rupture of the diaphragm at its central part, about three inches in length, with much inflammation about this part, and almost in a gangrenous state. The incision in the side had a healthy appearance; also the incision in the uterus was closed, and looked quite well; but the vagina was of a very dark colour, and seemed as if contused, and of the appearance of a black jelly: all her other parts were sound. She had given birth to four or five calves before this.

My next case was a very old worn-out cow, who had exceeded the usual period of gestation about seventeen days: she now made violent efforts to expel the foetus; and, with all the means in my power, I could not extract it from her, though I had recourse to



embryotomy. The cause of this I could not satisfactorily account for : the pelvic arch I thought unusually small ; and being dissatisfied with the results of my first case in the cow, before related, I thought this was a good opportunity to give the operation another and a fairer trial. The cow being of small value, I purchased her in the state she was in, and had her removed to my stables immediately. After she arrived I operated on her as I had done in the other case : she was subsequently kept on laxative diet for sixteen or seventeen days. In nine weeks after the operation the wounds had healed, and the cow was in all respects quite well, and had improved in condition very much : she was very thin and lean before the operation.

Since this time I have operated successfully on two cows and one sow ; three other cows on which I operated terminated fatally in three, six, and eight days afterwards. After death two of these were found to be affected with severe peritonitis, evidently the effects of the operation. Was the rupture in the diaphragm of the first cow caused by the violent efforts and struggles of the cow during her endeavours to expel the calf, and the consequent inflammation and gangrene of these parts the cause of death ; or had the bruised state of the vagina any thing to do with the cause of death ? My own opinion is, that the rupture in the diaphragm was the sole cause, and that the bruised state of the vagina had little or nothing to do with causing the death of the cow, as I have very frequently seen these parts torn, bruised, and much inflamed, without any particular bad effects.

There is one affection incident to cows, and mares also, under gestation, which I have several times met with in my practice, though not at all or very little noticed by pathologists, but which will sometimes occur, and will be the source of much annoyance to the practitioner who is not acquainted with it. I have myself seen an otherwise very eminent veterinary surgeon lose an excellent client from this cause only, while I, having seen and attended to these cases before, being called in, confidence was thus established between us. I have met with four cases of it of late years.

The affection I mean appears a little before the proper time of parturition ; the animal shews every disposition to expel the fœtus, the pains and strainings are as severe as under true parturition, the only difference being no pilot or warning messenger (usual in proper cases), the discharge of water per vaginam ; she has very violent and continued labour pains ; the feet of the calf will be forced out and project, enveloped with the vagina and uterus, at every pain or throe, as far as the vagina will admit (turned inside out as it were), the neck of the uterus with the sphincter uteri projecting farthest out, and will be found quite closed and contracted, not even

admitting a finger. These symptoms will continue from twelve to twenty-four hours, then all will disappear, and the cow go on all right for eight days or a fortnight: true labour will then commence, the sphincter will now give way, and, in general, delivery will follow in as natural a manner as if nothing wrong had previously occurred. It most commonly affects young cows or mares in their first gestation; but I have had an instance or two in aged ones.

There is no danger to be apprehended if she is let alone, and allowed to go on to her proper time: except at the time of parturition, and for about twenty-fours after, they are much disposed to eject the uterus, therefore they require more attention.

I have known and seen some very great blunders committed in these cases by persons who really did not understand them, and who, considering the animal was in the act of calving, and that she must die if not delivered, and the state of the passages preventing that object, under these ideas they have divided the sphincter by incision, which allowed delivery to be easily effected; but these cases have always terminated fatally, at least as far as I have witnessed or known them.

All I do in these cases is, to persuade the owner (sometimes with great difficulty) not to allow any one to meddle with her, but to wait patiently eight days or a fortnight; and the result has always been quite satisfactory. Sometimes I have found it necessary to administer  $\zeta$ iv of opium, to lull the excited state of the parts, and to apply trusses to prevent the cow injuring the uterus, &c., by violent efforts to expel the fœtus. I take the trusses off when she becomes tranquil and settled, and when her true time arrives for delivery. After she has been delivered, I immediately apply the trusses again, to prevent the protrusion of the womb, which is a common sequela, if not prevented.

## CASE OF ENTERITIS IN A DOG, WITH A RUPTURE OF THE COLON.

*By Mr. JOHN ROLFE, Veterinary Student.*

PERHAPS the following case may possess sufficient interest to render it acceptable to some of the many readers of your valuable periodical:—

On Sunday morning, March 15th, 1840, Mr. M——s, of Chelsea, requested me to attend a dog of his that was ill. He thought he had not been well for the last four or five days. He was a large dog, of the bull breed, and three years old.

*Symptoms.*—I had not long arrived ere I recognised that it was a case of enteritis. He had a dreadful shivering fit, to which succeeded heat of the skin, and restlessness. The muzzle was dry

and hot, as also was the tongue: the eyes were sunken, and redder than natural; the breathing was accelerated, but not very laborious; the extremities were cold, while the surface of the body was hot, and painful to the touch. The bowels were constipated, and had been so for the last week; some dung, however, was evacuated, but it was hard and dry, and in small quantities. The pulse was quick, but full; a slight pain and considerable irritation in the rectum. I bled him  $\mathfrak{Z}\text{x}$  before the desired effect was produced, and gave him tinct. opii. gtt. xiv, et spt. ether. nit. gtt. viij, cum ol. ricini  $\mathfrak{Z}\text{ij}$ , and an opiate enema to allay the irritation of the rectum. This was about 8 o'clock A.M.

10 A.M.—The irritation has almost subsided, but he is dull, will not eat, hides himself, and has more pain. I ordered him a draught composed of mutton broth  $\mathfrak{Z}\text{jss}$ , et tinct. opii. gtt. xvij.

11 A.M.—The bowels have not been moved, and the pain is more intense. His countenance expresses great anxiety, he frequently lies on his stomach, and the pulse is small but quick. I gave him a little more broth, and ordered the abdomen to be fomented with hot flannels.

2 P.M.—Has had distressing sickness, and is extremely anxious for water. I introduced my finger into the rectum, but could not discover any hardened fæces. Enemas, composed of mag. sulph. and warm water, were constantly kept up the intestines; as soon as one came away, another was thrown up.

4 P.M.—No better. I gave him pulv. aloes  $\mathfrak{z}\text{j}$ , hyd. chlor. gr. vj, et pulv. opii.  $\frac{1}{2}$  gr. The fomentations to be continued, and the abdomen rubbed with a little lin. tereb.

5 P.M.—A great change has taken place within the last hour. The hind extremities are paralysed; the mouth and ears are become cold; the pulse is more hurried and irregular, and almost imperceptible; the respiration is laborious and irregular as the pulse, and is frequently interrupted by sickness. To be kept quiet.

6 P.M.—Another change. He lies groaning piteously, and panting; his limbs bathed in sweat, with convulsive struggles. Twenty minutes past six death relieved him of his sufferings.

*Post-mortem examination* presented general marks of inflammation. The small intestines were extremely red, while the large ones were in a gangrenous state, and most offensive, with a rupture of the colon. I did not expect to have met with this rupture, and must confess that I am at a loss to account for it. The liver was of a pale ashy colour, and very light: I put a part of it into some water, and it floated upon the surface. The other contents of the abdomen (as far as the light would permit me to see) did not shew the slightest appearance of having been diseased.

I am sorry that I could not make a more minute examination, but it was dusk when I began.

## THE VETERINARIAN, APRIL 1, 1840.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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## ON VETERINARY ASSOCIATIONS.

[In several of our little excursions, we have been sorry to see the apparent coldness, and sometimes alienation, which exists between the practitioners in the same town and neighbourhood. It is that which is too often found in the infancy of every art; but it is high time that it should cease to disgrace and injure us. We remember hearing one of our brethren say that there was not a man within a dozen miles of him that he cared to associate with, and that the less he had to do with them the better.

In very few parts of the kingdom are there periodical and friendly associations of the neighbouring practitioners. Our brethren little know how much they lose in pleasure and improvement by this. We have long thought of taking this subject up; but a writer in the September number of the "Recueil" has done this so well, that we shall at present content ourselves with translating what he has so well written. His language, however, is that of commendation. We trust that ours may ere long be so.—Y.]

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THERE exists at present, in veterinary medicine, a remarkable tendency to progression, which it gives us great pleasure to mention. In many parts of France veterinary societies are forming and organizing themselves. This spirit of association must contribute, we think, in a most powerful and rapid manner, to the progress of veterinary science. In the sciences, as in the mechanical arts, association should, for the future, be the source and the *primum mobile* of every thing that is valuable. That which the isolated efforts of one man are insufficient to produce, when many unite their combined powers, and in the true spirit of harmony labour to effect, is easily accomplished. By association, all who are grouped together by the similitude of their studies, and by the congenial nature of the object to which their efforts are directed, profit by the labour of each individual, and each one profits by the

labour of all. He to whom Nature has been most liberal contributes most; and while he whose means are more limited contributes less, yet no effort is isolated or lost, and there is no improvement the progress of which is not hastened and assured.

See how truly the history of veterinary medicine proves this. At the first establishment of our schools, each individual proceeding from the school at which he had received the elements of instruction, stood alone—he was abandoned to himself in the locality in which his lot was cast. There existed no periodical through the medium of which he might communicate to his brethren the facts that presented themselves to his observation, or the ideas relating to those facts which arose in his mind, or in which it was possible for him to find the elements necessary for his onward progress in the art that he was beginning to love, and on which his future welfare depended. Each one worked for himself alone, and the work of the individual was profitless to others. At that period the march of science was necessarily slow; but it was suddenly and gloriously quickened when three men, whose memory will ever be dearly cherished by the veterinary practitioner,—Chabert, Flandrin, and Huzard,—associating with one common and glorious object, published the “Instructions on the Diseases of Domesticated Animals,” and thus produced the first result of the combined efforts of veterinary surgeons. That first effort inspired others, and the invaluable consequences of it are seen and felt at the present day in the different veterinary journals, each one of which deeply feels the importance and the utility of mutual co-operation, and labours to cherish it for their own benefit and that of the profession.

The association and mutual co-operation which it is the object of this address to describe and to promote will contribute much to that which may be called the local pathology of our art—the influence which the various *conditions* of different localities exercise on disease—how great, yet how neglected, are these! The effects of different modes of feeding and general management, and the dependence of health and cure of disease depending on causes previously overlooked in districts which, although bordering on each other, exert as dissimilar an influence as can well be imagined on

the well-being of the animal, each of these things will afford a powerful incentive to emulation, a stimulus to exertion, and a determination to contribute all that is in our power to elevate the veterinary profession, and to enable others to comprehend the high importance of the mission which is entrusted to us.

When a man is isolated in a country, without any other inducement to exertion than the desire of accumulating a certain quantum of property, that will soon become his governing principle, and every effort will be made to increase of his practice, for on that will chiefly depend the accomplishment of his object. All intellectual labour and scientific acquirements will be only secondary in his estimation, and will be neglected and despised, or, at least, they will bear no comparison with the pursuit of pecuniary emolument.

Suppose, on the contrary, that he becomes a member of some veterinary society, where it is his duty to communicate to his brethren every new idea which he may have formed, and at the same time is enlightened by their increasing knowledge, in which, in his turn, he must mingle in some scientific discussion, or read some well-digested essay—see now the change which takes place in him: formerly he was entirely passive—he received the light which fell upon him, but he reflected none in his turn. Now he becomes studious and active—he puts to the proof the principles of his art—he furnishes those around him with the results at which he has arrived, and he acquires the habit of working and of thinking. In this way his comprehension necessarily enlarges—the occupations which he prefers are those of his profession, and he avoids many a rock on which others are shipwrecked.

But this is not all. In these periodical meetings the members of the society begin reciprocally to appreciate each other—the bonds of confraternity are no longer strained—they are, too, in common society a fiction. The narrow spirit of jealousy, which too often actuates the men who practise the same profession in the same neighbourhood, without any friendly intercourse with each other, vanishes before the real appreciation which each is enabled to form of his neighbour; and without impeding, or injuring, or wishing ill towards each other, they all can pursue their course to-



wards their object. Thus the perfectionment of veterinary science—the high and well-merited consideration in which they are held who practise it—the true and honest confraternity which binds them all together, and, the common object of all, the welfare of those who work and of those by whom they are employed—such are the results which must necessarily follow from well-organized veterinary associations.

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In reference to the above may be perused, with interest, some observations uttered by Sir Benjamin Brodie, in his retrospective address to the members of the Royal Medico-Chirurgical Society at its anniversary meeting.

If any one were to ask him (Sir Benjamin) what were the advantages of this society, he should say, first, its library. Secondly, whatever brought a number of men, of one profession, into friendly intercourse and scientific conversation, would be useful in exciting emulation, exercising the intellect, and giving additions to their knowledge: it maintained the zeal of the zealous, while it imparted a spirit of emulation to those previously without it. Thirdly, it removed that distrustful feeling so liable to be engendered in professional men not personally acquainted; it gave us a better knowledge of ourselves, taught us humility with respect to our own attainments, and a respect for the opinions of others. Among other advantages, the publication of transactions might be mentioned. No one would doubt but that such publications preserved many researches which would have been otherwise lost to the world, while they also excited individuals to contribute to the common stock. It would not be well to institute comparisons between the transactions of that and other societies: posterity would give them a place neither higher nor lower than they deserved. This much, however, he thought they might anticipate,—that whoever, in future, might read the transactions of that society, would feel that there had existed many members of the profession who had not made their calling a trade, but a science; and also that, if the profession were not dealt with practically, it was neither interesting nor useful.

The latter part of Sir Benjamin's address related to our late Professor, Coleman, who, it appears, was a member of the society.

The hand of death—continued Sir Benjamin—had passed lightly over their associates; during the last twelve months only one out of four hundred having become his victim. The loss of the individual would be regretted as a man of science and intellect, but more especially by those who had the opportunity of enjoying his friendship and unaffected conversation.

The deceased Fellow to whom he alluded was the late Professor Coleman. Sir Benjamin then gave a sort of biographical sketch of Mr. Coleman, which he concluded with the following opinion of his mental character:—"He thought his intellect was of high order, and gave indications of genius; he had obtained little knowledge from books, but he had been an original observer, and had reflected much on all he had observed, and drew his own conclusions. Hence it was, that in many subjects he was behind the knowledge of the day; but he had a peculiar knowledge of his own, and could give information such as no one else could impart."

\* \* There are one or two happy touches in this bit of biography.—P.

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*To Professor Sewell, Royal Veterinary College.*

My dear Sewell,—Before this shall have reached you, you will have perused, and I hope considered, my letter to Mr. Bransby Cooper on a subject which deeply concerns you, and touching alterations to bring about which you must necessarily play a prominent part. Report says you are hostile to these measures. I hope that report is unfounded—I trust you have too much good sense to set yourself in opposition to that which, as I shall presently shew you, is on all sides admitted to be conducive—nay, is absolutely necessary—to the prospective advancement of our art.

In revising the arguments which have been used in favour of the introduction of members of the veterinary profession into their own Examining Committee, we find the main one to be, that surgeons and physicians are, in matters of practice, incapable of examining veterinary pupils. Can *you* gainsay this? Is there a single member on the Examining Committee who will dispute it, Sir Astley Cooper excepted? And why does Sir Astley question it? Because, from the length of time he has been sitting on the

Committee, from the numerous examinations he has attended, from the veterinary knowledge he has thereby been able to collect, added to the observations such a great mind as his has at all times been making, and particularly on veterinary science, from the known love he has always borne it, together with the advantages he has for years enjoyed from his great intimacy with and regard for our late Professor—all this, I say, accounts for Sir Astley's scruples—which, after all, do not amount to dissent—concerning the expediency of the admission of veterinary surgeons into the Committee : because his own mind is stored with so many veterinary facts, and so much of that knowledge which the veterinary examiner requires, it is that Sir Astley, in the liberality of his heart, gives the other members of the Committee credit for possessing veterinary knowledge tantamount to his own. But is there another Sir Astley in the Committee ? Is there any one among the medical members, barring my friend, Mr. B. Cooper, who will affirm that he possesses any knowledge whatever of horses ? I say this, not out of any disrespect for the other members—to most of whom I am known, and all of whom I sincerely esteem—but for the sole purpose of shewing how disadvantageous to veterinary science it is that they should hold situations which ought to be occupied by veterinary surgeons.

If you tell me, that the medical knowledge these gentlemen so eminently possess, is, by application, sufficient for the purposes of examination *generally*, and that as to matters of *special* anatomy, physiology, and pathology, these are provided for by the introduction into the Committee of the Assistant-Professor and yourself, I answer, that, instead of the numbers being six of the former and two of the latter, they ought to be reversed ; and that neither yourself, nor your Assistant, ought to be on the Committee at all. For teachers to examine and pass their own pupils is indelicate—is decidedly improper. At the College of Surgeons such inconsistency is scrupulously avoided : no examiner there, who is a teacher, ever thinks of examining the pupils of his own class. It has in times past been done at the Veterinary College, because dearth of talent in the profession rendered it absolutely necessary : such, however, is no longer the case, and, therefore, the impropriety ought to cease.

Indeed, were I in your place, I should be exceeding glad to have such a responsibility—one so liable to be taxed and impugned—taken altogether off my shoulders.

In the beginning of this letter I told you, I hoped that the rumour which ascribed hostility on your part to the innovation in question, was without foundation. I now tell you, that, if it be true, *you stand alone in your opposition* : at least, if there be any veterinary surgeon concurrent with you in opinion, he is unknown to me. Sir Astley Cooper, fortified as he feels himself in veterinary science, and for that reason not admitting the incapability of the Medical Committee even in matters of veterinary practice, still *is not opposed* to the introduction of veterinary surgeons. Mr. Travers has actually resigned on the grounds that the veterinary profession “has now attained a rank and character, both in science and practice, that not only enables us to provide for our own independent maintenance and legislation, but fairly entitles us to all honours and emoluments thereunto belonging.” These are Mr. Travers’ own words; and long will veterinary surgeons bear in memory that noble act of resignation by which they have been accompanied. Mr. Bransby Cooper, too, is fully of opinion that we ought to have seats in the Examining Committee. Ay! even your predecessor was of that opinion, as the following letter of his to me in May 1827 will shew :

Veterinary College, Saturday.

Dear William,—I expected to have had the pleasure of seeing you to-day, or should have answered your letter before. Your proposal of calling on the Medical Committee to examine those veterinary surgeons who may be desirous of becoming veterinary examiners, may suit your individual claims extremely well. \* \* \* \* But recollect the arguments employed to make out a strong case in favour of a veterinary committee. That the medical committee are wholly ignorant of veterinary knowledge (which, however, is not true), and that the Professor is an interested individual in these examinations. Is it probable that the candidates would consent to be examined by a committee which they believe to be incompetent, whose approbation they would not value, and upon rejection they would despise. Neither would the committee who have previously

examined and approved of the candidates, put themselves in a situation to pronounce men disqualified, who, in the opinion of the public, *are well acquainted with practical veterinary knowledge*; and this is the knowledge in particular required by the veterinary committee. However, I am in hopes that both you and your father will be on that committee: at least, *it shall not be my fault if either are excluded*.

I remain, as ever, your's truly,

E. COLEMAN.

Wm. Percivall, Esq., V. S.  
Woolwich Barracks.

Here you have Mr. Coleman's expressed promise to exert himself in our behalf. But there are two or three points in this letter which require some comment. "Is it probable," Mr. C. asks, "that the candidates would consent to be examined by a committee which they believe to be incompetent?" In answer to which, I would put this question—Are Goodwin, Cherry, King, Field, Turner, Youatt, Karkeek, Spooner, incompetent persons? Are these men's approbation and sanction to be set at nought and despised? If so, why then let the pupils despise themselves for belonging to such a worthless, ignorant profession. Afterwards, Mr. C. says, "Neither would the committee who have previously examined and approved of the candidates put themselves in a situation to pronounce men disqualified, who, in the opinion of the public, are well acquainted with practical veterinary knowledge." This passage seems to have reference to a proposal that was formerly made, that there should be *two* committees—one veterinary, one medical: were a similar scheme proposed now, I, for my own part, should object to it, not only on the ground of unnecessarily submitting the pupil to the hardship of two separate examinations, but also for other reasons. It is the latter part of this passage of Mr. C.'s letter which is of the most value, and requires our greatest consideration. "The opinion of the public" is, to a professional man, every thing; by it he lives and enriches himself in this world's goods; and it is this "opinion of the public" which makes me, after mature deliberation of the question, think, that it would be more ad-

visable—more advantageous altogether to the pupil—that veterinary members should be added to the medical committee than that the latter should be abolished. The name of Sir Astley Cooper to a pupil's diploma is of itself a host; and were that name, and such another or two, backed by the names of those who are now well known as eminent veterinary surgeons, I should say that the certificate of qualification was as perfect as in these times we could make it.

What, therefore, I would beg to propose, is, that a certain number of veterinary surgeons be elected into the present Examining Committee; and then, if you should still persist in examining your own pupils yourself, why, it will be done under that kind of veterinary *surveillance* which will render it considerably less matter of suspicion than it is at present.

There is one other reason—of less weight than the former, but still not to be overlooked—why veterinary surgeons should have seats on the Examining Committee; and that is one suggested by Mr. Travers' admirable sentiments, that our profession, having attained rank and character, both in science and practice, has now fairly become entitled “to all honours and emoluments thereunto belonging.” Heaven knows, our “honours and emoluments” are scanty enough; but by admitting a certain number of us into the Examining Committee, they might to that extent be augmented: it can be no honour to such medical men as are at present on the committee to be there; but by us it would be so regarded, and as such might prove to a degree a stimulus or spur to help flagging or emulous minds on in their professional career.

With these observations, for the present, my dear Sewell, I shall take my leave of you, trusting you will receive them in the spirit in which they are penned, namely, the advancement of that science which we both pursue, and the welfare and aggrandizement of that profession of which you are a Professor and the subscriber but a humble member.

WILLIAM PERCIVALL, M.R.C.S.,  
Veterinary Surgeon 1st Regiment of Life Guards.

Since writing the above, I have received a kind communication from Sir A. Cooper, informing me that it is the opinion of the



present Board of Examiners, “that there can be no objection to our forming a Board of Examiners,”—but that, their Board having been constituted by the governors, “they (the governors) only can change it.”

It may not be in the power of the present Committee of Examiners to alter the constitution of their own board; but, supposing they deemed it advisable to admit one or two veterinary members, and were to send such a recommendation to the governors of the Veterinary College, do the committee imagine it would be rejected? Oh, no! certainly not. But suppose the members of the profession were to draw up a memorial of the kind, and lay it before the governors, do the committee think we should succeed? Oh, no! certainly not. How could we, when our Professor himself is averse to the question? What, then, is to be done? To endeavour to persuade the Professor that the concession of the point, on his part, would tend to the benefit of the profession. This, I fear, would turn out a forlorn hope. No! The governors of the Royal Veterinary College must be roused from the dormant state in which they have far, far too long lain; not by lukewarm, milk-and-water memorials, but by strong and influential representations. Surely, in such a great horse-country as this, we shall not be at a loss to find out persons—ay, personages of affluence and power,—who will be both willing and ready to take up any great question vitally connected with the best interests of the veterinary profession. Is there not among the governors a man who will see to this? If there is not, better would the College be without them; and better far would fare the profession, would they throw off all acknowledgment of obligation and allegiance to such men. However, let us hope better things. Let us think the time is not far distant when some conscientious governor will rise up in his place, and to his confrères say—“Gentlemen! we must reform our house.” Then will the present Committee of Examiners receive all the grateful and generous returns the profession can make them for their long and faithful and valuable services; then will such a Board be formed as will render the man who may pass it *truly* “qualified to practise the veterinary art.”

P.

The subscribers to THE VETERINARIAN will learn with regret that its respected Editor—Mr. Youatt—is at the time of writing this, and has been for these three weeks past, unable, from severe indisposition, to quit his bed: he is, however, we are in hopes, amending, and will, it is anxiously to be desired, be enabled, shortly, to resume his literary labours. In the mean while, Mr. W. Percivall has been placed in the editorial chair; not without full conviction, on his part, of the want of finish that must be manifest throughout the present Number in his hands, and yet with a feeling that the subscribers will overlook imperfections, and otherwise grant him all the indulgence in their power.

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## REMARKS ON EMPHYSEMA OF THE LUNGS.

*By* GEORGE BUDD, *M.D. Physician to the Seaman's Hospital, Dreadnought.*

[From the Lancet.]

EMPHYSEMA of the lungs first distinctly pointed out by Dr. Baillie,—since more fully described by Laennec. One of the objects of this paper is to shew that want of elasticity in the lungs—absence of its natural tendency to collapse—is the cause of many of the anatomical characters of emphysema, and of most of the symptoms by which the affection is characterized. These symptoms and characters are, the cylindrical form of the chest, and elevation of the shoulder blades and collar-bones, the abdominal character of the breathing; the immobility of the parietes of the chest during respiration and cough; the peculiar character of the cough, which is short and interrupted; the dryness and diminished vascularity of the capillary system of the pulmonary artery, in portions of lung affected with emphysema: imperfect arterialization of the blood, and consequently diminution of animal heat; obstruction to the circulation through the lung, causing dilatation of the right cavities of the heart, and a tendency to general œdema.

Dilatation of the air-cells was considered by Laennec as the chief character of emphysema of the lungs, and he supposed that this dilatation was caused by some obstruction in the air-passages, which prevented the free escape of air from the lungs. The correctness of this became doubted when Dr. Jackson discovered that

emphysema was very frequently hereditary. And Louis has since found that emphysema often develops itself without pulmonary catarrh. Dr. Budd considers dilatation of the air-cells, like dilatation of the chest, a necessary consequence of want of elasticity in the lung, which he regards as the fundamental and primary character of emphysema.

Dr. Budd gives an account of the state of the lungs in twenty horses of various ages; from the dissection of which he concludes emphysema of the lungs in them to be very common, and that it follows, in all particulars, the same order as in man. He infers from this, that the disease has the same cause in both; and that in horses, as in man, it is very frequently hereditary.

Dr. B. speaks throughout of the "vesicular emphysema." What has been called "interlobular emphysema," i. e. extravasation into the cellular tissue of the lung, rarely exists to such a degree as to give rise to any symptoms, or to merit being considered as a disease. It is the result of an accident, viz. rupture of the air-cell, most commonly caused by a deep and rapid inspiration, and which is, generally, a very trifling injury: the density of the cellular tissue of the lung preventing the extravasation taking place to any great extent.

Dr. Johnson inquired how Dr. B. reconciled his opinion, "that the bronchial tubes, although elastic, were not contractile," with a fit of asthma, its relief and recurrence. Dilatation of the air-cells did not always occur as a sequence of asthma, but might be found where that disease had never existed. He had seen the air-cells dilated from the size of a pea to that of a pear, in a person who had for several years an habitual dyspnœa. The lungs of the great Dr. Johnson were similarly diseased, and yet he was not at all asthmatic, his breath failing him only when he climbed high mountains.

Sir B. C. Brodie observed that it was difficult to distinguish cause from effect. Was it is not possible the dilatation might be the effect rather than the cause of asthma. He had a boy who died from hydrophobia, suffering violent spasms of the glottis, in whom the air-cells were found dilated in the shape of small bladders. They were not supposed to have been so before the hydrophobia, but were thought to have been the result of the difficult respiration consequent upon the spasm of the glottis. He also knew a gentleman who had had spasmodic asthma for years at intervals, but was now free from it. If dilatation had been the cause, the cells must have gradually resumed their natural size. On dividing the eighth pair of nerves of animals, he had been struck with the resemblance of the symptoms produced to spasmodic asthma. The animals breathed with great voluntary effort, and could not go to sleep, which he was led to attribute to the sympathy between the lungs

and the brain being divided. The respiration would have ceased unless it had been kept up by an intense act of volition. Sir Benj. Brodie had no doubt that contractile power was possessed by the lungs, and assisted to some extent the muscles of respiration. A French physiologist had remarked, that in wounds of the chest the lungs protruded. Sir Benj. had also found this to be the case. During inspiration, the protruded lung returned into the cavity of the chest, but again protruded in expiration, shewing that the chest (lungs?) had a contractile power independent of the muscles.

Dr. Budd believed that in the case of hydrophobia related by the President, the bladders of air found in the lungs after death were collections of air which had extravasated into the cellular membrane. Such extravasations were altogether different from that dilatation of the air-cells which constituted emphysema, and was not uncommon in cases of croup and whooping-cough. In the cases of spasmodic asthma, he contended that the spasm did not exist in the bronchial tubes, but in the internal muscles of respiration. There was certainly some appearance of muscular fibres in the trachea when viewed superficially; but seen through the microscope this would be found not to be the case. He had made many careful examinations and experiments to determine this question. An ox was killed with the blow of a pole-axe: the trachea was immediately removed, and the anterior rings divided. No contraction succeeded to the application of the galvanic fluid.

Mr. Macilwain believed that the idea that asthma was dependent upon dilatation was erroneous. He considered that the disease was the result of extravasation of air into the cellular tissue, by which the capacity of the air-cells became diminished.

Dr. Jno. Wilson related two cases in which the patients perished from emphysema of the lungs, both cases after death exhibiting precisely the same morbid appearances. In one case the sound on percussion was preternaturally clear, but not so in the other: he could not account for this difference.

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## PARALYSIS OF THE LEFT SIDE OF THE FACE, AND OF THE LEFT FORE LEG, IN AN OX.

*By M. NOYÉS, of Limoux.*

THE patient was an ox between fourteen and fifteen years old, and in good condition. On the 30th May 1834, the servant charged with feeding the cattle perceived on the ground, and under the

muzzle of this animal, a quantity of fluid in which particles of imperfectly masticated food were swimming. Notwithstanding this he gave the beast its usual quantity of food, and went away, after having cleaned the floor of the stable under the beast. On his return he was surprised to find it again covered with saliva and half masticated food. He then watched the animal, which was continuing to ruminate, and he perceived that a great portion of the bolus fell from the left side of the mouth, which was partly open. When he drank he was unable perfectly to close the mouth, and the greater portion of the water likewise escaped.

I saw the animal on the same day. The litter was every instant covered with a great quantity of saliva, mixed with partially triturated food. I perceived that every part of the left side of the face was paralyzed, the right side remaining unaffected. The left eye was as fixed as that of a mummy—the eyelids were motionless—the alæ of the nose ceased to contract in the act of breathing—the ear was motionless, and the lips on the left side apart from each other. When he attempted to walk he dragged his left fore foot on the ground; the whole of the limb was altogether without voluntary motion, and its sensibility was extinct. I plunged my bistoury into the muscles of the fore-arm, and the animal did not appear to be conscious of it. The pulse and the mucous membranes were in a healthy state. Then my diagnosis was local palsy, involving both voluntary motion and sensibility. My prognosis was uncertain, and the cause of the disease was altogether unknown.

I, at first, had the whole of the paralyzed parts well dry-rubbed with a wisp of hay. I then had the hair cut off, and caused the parts to be well embrocated with hot vinegar; to this succeeded a blister plaister, as large as a hand, on the jaw; and another of the same kind, but of double the size, on the neck. Finally, I rubbed the whole of the limb with spirit of turpentine, and administered a strong diuretic. For food I gave him at first chaff mixed with a little barley-meal, and made into a kind of mash with hot water. He afterwards had a little hay and good straw.

Two days after the application of the blister, there was considerable swelling of the parts, and several vesicles had risen, which I opened. On the third day, considerable suppuration was established, which I maintained during twelve days.

By slow degrees, feeling and the power of motion returned to the parts; and on the fifteenth day the animal ruminated without dropping the least portion of his food. At this period he returned to his usual food. At the end of a month he was completely cured. He was then fattened, and, in due time, sent to the butcher.

*Journal du Midi.*

## A MEMOIR ON THE ESSENTIAL ALTERATIONS OF THE BLOOD IN THE PRINCIPAL DOMESTIC ANIMALS.

*By M. DELAFOND, Professor of Pathology in the Royal Veterinary School at Alfort.*

[Read at the Royal Academy of Medicine, 2d July, 1839.—Reported by M. BOULEY, Jun.]

INQUIRIES with regard to the nature of the blood, the changes which it undergoes, and its connexion with health and with disease, have occupied the attention of the French from the time of Pinal to that of the great physiologist Broussais, and from Broussais to the present time; and there also, as in our country, many inquirers had begun to abandon the doctrines of Broussais and of Hunter, and to return to a certain reformed and purified humorism. In order to throw some light on these disputed subjects, a prize was offered for the best essay on “The Essential Alterations in the Blood in the principal Domestic Animals.” To meet a question like this, no one but a veterinary surgeon was qualified; and the society well knew that they had those among them belonging to our profession who were fully qualified to conquer the difficulties which such a subject necessarily involved. Professor Delafond, who had already distinguished himself by his scientific works on the “Sanitary Police,” and the yet nobler work on “General Pathology,” on which he is now engaged, sent a Memoir to the Society on the proposed subject. Five members of the academy, and among them two veterinary surgeons, were appointed to determine their respective merits, and their award, and the ground of it, have been published. M. Bouley, jun. was the reporter. The subject is a most important one, and the report will derive additional value from containing the criticism of one veterinary surgeon on the works of another.

M. Bouley says, that M. Delafond commences by observing that a portion of the ground has been already occupied by Dr. Trousseau and M. Leblanc, who have studied and described the blood in its natural state; and that this fluid has been considered by himself under the relations of its colour, smell, taste, slow or speedy coagulation, the respective proportions of its serum in these varying states—its fibrine, its albumen, its cruor—and that the results of these inquiries have been inserted in his “Treatise on Pathology and General Therapeutics,” published in the course of the last year, in which he has stated, in a concise manner, the essential



alterations of the blood in our domestic animals, reserving to himself, at some future time, the extension of this important subject to every point on which it bears.

He thus divides his subject :—

I.—MALADIES OF THE BLOOD ATTRIBUTABLE TO THE QUANTITY OF THIS FLUID IN THE VESSELS, AND THE RESPECTIVE PROPORTIONS OF THE GLOBULES AND THE SERUM.

1. *Maladies attributable to the abundance of Blood, and the great proportion of its globules.*

Polyhémie (*πολυ αιμα*), much blood. Under this name the author describes a peculiar state of the constitution, which has considerable analogy to that which old writers designate under the name of plethora, and which consists, according to him, in an abundance of blood containing a too great quantity of globules.

The animals that happen to be in this particular state are subject to various kinds of apoplexies, the situation of which varies, and which are developed in them in some measure spontaneously, and without any other apparent cause than the quantity and the quality of the blood. These congestions, he says, ought not to be confounded with those which owe their origin to other causes.

We will see, says M. Bouley, whether this opinion is well founded. “Polyhémie is determined by food having a great proportion of nutritive principles, which give to the blood a great quantity of fibrino-albuminous and cruoric materials at the expense of the natural quantity of serum.”

This assertion, which is founded on observation and experience, will not find any contradictors, especially among veterinary surgeons. We have long known that oats, and especially wheat and barley, given in too great quantities to horses, disposes them to that inflammatory affection or congestion of the vessels of the foot known by the name of founder (*fourbure*), and that vetches and beans have occasioned in the same animals those peculiar intestinal congestions known by the name of red-colic.

We will refrain from extracts which we could easily multiply, and follow our author in the development of his opinion as to the causes of polyhémie. In order that the action of cerealious and leguminous seeds on animals may be better comprehended, M. Delafond reminds us that chemical analyses have proved that these seeds contain a great quantity of gluten and vegetable albumen, and substances which contain much azote; and he adds, that experience has proved that these substances, associated with a very small quantity of the water of vegetation, render the chyle first,

and then the blood, rich in albumino-fibrinous principles, and give to these fluids, and particularly to the blood, abnormal qualities. In fact, if we bleed from the jugular animals that have been accustomed to this kind of food, it will be remarked that the blood runs slowly at the commencement of its abstraction, especially if the opening into the vein is not very large—that it coagulates very promptly, and that the clot of blood is much larger than in its natural state. Chemical analysis also demonstrates that the fibrino-albuminous and cruoric principles predominate very considerably in the serum. There cannot, therefore, remain any doubt of the effects of food too stimulating on the blood, and, consequently, on the prevailing causes of *polyhémie*.

After having described the peculiar symptoms which indicate a plethoric constitution in animals, M. Delafond remarks that the apoplexies which are the consequence of *polyhémie* have no constant locality, and, consequently, that the symptoms which characterize them are various. He then endeavours to ascertain the state of the blood in these polyhémic congestions, wherever may be their seat. This fluid, which in these circumstances is always black, flows slowly. Received in a vessel, it is quickly converted into a brown-red clot. After twenty-four or forty-eight hours, it is surrounded by a small quantity of deep yellow serum, and putrefaction very slowly appears.

In the animals which have perished from this kind of apoplexy, there is an accumulation of black blood in the tissues which were principally affected, as the lungs, the liver, the spleen, &c. At other times, the blood naturally flows to the surface of some organs, as the intestines, and the urinary passages; and, finally, the vena cava and the cavities of the heart ordinarily contain black and coagulated blood.

A restricted diet, food in a fluid form, and bleedings, such as the case may appear to require, are the proper means to employ in order to prevent the dangerous or fatal consequences of polyhémie. The curative treatment of polyhémic congestions consists in copious and repeated bleedings, and effected as nearly as possible to the seat of disease; but after a little while, and when the blood begins to be effused through the tissues, venesection is more injurious than advantageous, and only serves to hasten the death of the patient.

We perfectly agree with the opinion of M. Delafond as to the causes which determine this local or extensive plethora, the symptoms which indicate it, the fatal consequences to which it leads, and the means of preventing its destructive effects; but we do not believe that it is easy to distinguish these congestions from other species of apoplexy. We believe that these different affections

produce the same effects—the same alterations of structure, and are to be combatted by the same mode of treatment; except that the former demand a more active mode of treatment.

2. *Maladies produced by a diminution of the natural quantity of Blood, or an impoverishment of its constituent elements.*

*Anhémia* ( $\alpha$  privative,  $\alpha$  αἷμα blood), a deficiency of blood. Essential anhemia, according to M. Delafond, is rare among our domesticated animals; but long and hard work—unhealthy stables or localities—bleedings too often repeated—accidental hæmorrhages—profuse suppuration—extreme suffering from various diseases—insufficient or unwholesome food—will, in the course of time, produce this disease in the quadruped as readily as in the human being.

After having shewn the influence which these various agents exercise on all the functions, but especially on those of digestion and circulation, the author indicates the characteristic symptoms: to this he adds the characters which the blood presents, and the treatment which promises the most decided success.

Phlebotomy practised from the jugular vein of an animal labouring under anhemia, ordinarily gives only a scanty stream. The blood is lightly coloured, it coagulates slowly, and the serous portion predominates. Being examined after twenty-four or thirty-six hours, it presents a very small clot with a depression in its centre; and, softened beneath a stream of water, it gives but a small proportion of fibrine: the colouring matter is also deficient in quantity.

The carcasses of animals that have died under this disease present a peculiar appearance, which it is of some importance to note. The superficial vessels contain little or no blood—the vena cava, the vena portæ, and the right cavities of the heart, which are ordinarily gorged with blood, contain only a few clots, and those possessed of little consistence. Beside this, there does not exist any organic lesion of the solids which can explain the cause of the death of the animal.

In order successfully to combat this disease, the author recommends that we should remove as much as possible the causes of it, and to give, in small quantities, the aliments which contain the greatest quantity of nutritive matter, as wheat, barley, &c. He also advises the administration of the extract of gentian, the tincture of quinine, and, more especially, the several preparations of iron. Under the influence of this mode of treatment, he has often seen the animal rescued from destruction.

3. *Maladies attributable to a diminution of the natural quantity of the Blood, and to the impoverishment of the constituent principles of it, by an excess of serum.*

*Hydrohemia* (υδωρ water, αἷμα blood). This, which has been often

designated in veterinary medicine under the names of aqueous cachexy, the rot, &c. is a disease very frequent and mortal among oxen and sheep. This affection, which is rarely sporadic, sometimes epizootic, and often enzootic, ordinarily develops itself under the influence of insufficient food, associated with an increase of moisture. Green vegetables that have not acquired their full development, and especially when they are covered with dew, and also plants which grow in a humid soil, too frequently produce this disease.

It is particularly observed in rainy seasons, and in low and marshy countries. It reigns in England almost the year through; and in our country, and especially in Sologme, it destroys annually an immense number of sheep.

There exists a considerable analogy between anhemia and hydrohemia; the same symptoms mark their commencement, the blood presents in both the same character, and both of them promptly disappear, if the causes which produce them are removed. If the causes, however, continue to exert their baneful influence, the disease makes the most rapid progress. The mucous membranes become discoloured—the conjunctiva and the lips, and the frænum of the tongue, are infiltrated—the animals are eager to drink—the pulse is small and feeble, while the beatings of the heart are strong, and accompanied by a whizzing sound, and which is especially recognizable in the carotids. The wool is easily detached, and the tissue beneath the tongue particularly infiltrated, if the animal is suffered to remain at pasture.

If the blood is examined at this period, it is found to be light-coloured, and to resemble the water in which flesh has been washed. Its coagulation is very slow, and the clot is small, and possessed of little consistence. It appears in a receiver like a trembling jelly, surrounded by a great quantity of serosity, ordinarily clear, but sometimes of a citrine colour. When the blood presents this character, the disease is incurable. Dropsy speedily develops itself, a serous diarrhœa ensues, and the patient soon dies.

The lesions are not very dissimilar to those described as attending anhemia, except that there is a more general infiltration of the cellular tissue, and particularly of the dependent portions of the frame—serous effusions in all the cavities, and a great quantity of entozoa, such as the ascarides, the teniæ, and especially the flukes which obstruct the biliary canals—all the organs are white, macerated, and without any appreciable organic lesions—the heart and the large bloodvessels are almost empty; in a word, there is scarcely a trace of blood. Numerous and exact experiments have proved that, under the influence of this disease, the blood has diminished to a third or even a fourth part of its natural quantity.

At the commencement of this disease, change of pasture and

good food will generally effect a cure. Perhaps, even at a more advanced stage, indicated by infiltration of the mucous membranes, there may be a possibility of saving the animals. The leaves of trees that retain their verdure during the year, the lime and the cedar, associated with good and wholesome food, will generally produce a salutary effect. Under the influence of this treatment the quantity of serum will diminish, the fibrine and the albumen will increase, but the colouring matter will remain nearly the same.

Chemical analysis having demonstrated that iron forms the base of the cruor, it was natural to endeavour, by ferruginous preparations, a method of restoring the blood to its natural colour. M. Delafond advocates the sulphate of iron, which had been employed as early as the days of Chabert. Under the influence of this medicament the blood has almost always regained its natural colour, and the hydrohemia has disappeared. It is useless to say that this treatment will fail when the disease has attained its last stage, for such an affection will then necessarily bid defiance to the resources of art.

The pathognomonic symptoms of this disease—the state of the blood—the slow march of the malady—and the lesions which it produces, all prove, according to our author, that the impoverishment of the elements of the blood and the predominance of the serum, are the primary and essential causes of hydrohemia.

[To be continued.]

## REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

*A Natural History of Quadrupeds and other Mammiferous Animals, comprising a Description of the Class Mammalia, including the principal Varieties of the Human Race.* By WILLIAM CHARLES LINNÆUS MARTIN, F.L.S., with upwards of 1000 engravings, &c. Whitehead and Co., Fleet-street, London.

SUCH is the title of a new zoological work, publishing in monthly parts. Part the First appeared in February last; and if we might be allowed to judge of its merits by this introductory number, we should consider it well adapted to supply an evident deficiency in one department of zoology at least; as it purposes to embody, in a

cheap, attractive, and interesting form, all that relates to the laws, the structure, and the history of the class on which it treats; to present, invested with a pleasing and popular dress, a history and description of all the known species of the class mammalia, and, as far as practicable, of those occurring in a fossil state; a disquisition on the great characters and laws of the class; an exposition of its anatomy; and a delineation of those structural modifications, traceable through the various orders and genera, by which their affinities are determined, and their arrangement influenced. Most of the productions of the present day exclusively devoted to zoology are appreciable only by the man of science; and these are of such an elaborate and voluminous character, and withal so very expensive, that they find entrance only into the libraries of the wealthy, and of public institutions.

There is no pursuit in the whole range of learning, perhaps, more congenial to the human mind than the study of natural history; and no one can pursue it without strengthening and enlarging the mind. In the earliest stages of society, when the mind is in a great degree uninformed of the nature of the world around, and uninfluenced by the benign precepts of religion, man

“Sees God in clouds, and hears him in the wind.”

As he treads the savannas and steppes of his native wilds, he becomes acquainted with the animals indigenous to the soil, and with the habits and manners of those in particular on which his comfort and subsistence depend; he traces them to their haunts by the light prints of their hoofs and claws, and obtains possession of them by force and stratagem. He reads in the skies the indications of the approaching storm; observes the flights of the various migratory birds, their peculiarities, manners, and instincts. He observes certain quadrupeds, which are lively or torpid at alternate seasons of the year; by the sprouting of the leaf in spring, the blossom of the flower in summer, the appearance of the fruits of the earth, the fall of the leaf in autumn, and the snows and frosts in winter, he ascertains the revolving of the seasons. He knows when the bear retires to his den, and the beaver comes forth from his habitation; and is ever alive to all impressions that may seem to give warning of danger, or lead to the gratification of his appetites, and the desire of prolonging his existence.

Thus it is with the savage in the dark recesses of the forest; his knowledge must emanate directly from Nature: but civilized man derives his ideas from a constant series and succession of facts, obtained from observations on the various laws and phenomena that appear in the physical world. At every step he takes, Nature presents him with a thousand charms, and delights him with new wonders; and well is he rewarded who obeys her call. The votary of



Nature deems no object unworthy of examination, none destitute of interest; nor does the spirit of philosophic inquiry suffer him to rest satisfied with a casual glance at the multitudinous phenomena around him: he is not content merely to wonder and admire; but, urged onward, he attempts to trace back effects to their causes; he investigates, he discriminates, he analyzes, he combines, and, still proceeding in his course, endeavours to obtain a glimpse (imperfect it may be) of the mighty plan of creation,—a knowledge of the grand scheme by which the whole is blended into unity.

In the introductory Number before us, the author commences with remarks on the extent of creation, and on the intrinsic value of the science of Natural History; whence proceeding to the class to which the work is expressly devoted, it gives a summary of the characters of the mammalia, a sketch of the peculiarities of their cerebral developments, and an outline of their osseous system.

We extract the following remarks on the weight of the brain, compared to that of the body, in man and certain other animals:—

“ Much has been said by anatomists and physiologists respecting the weight of the brain compared with that of the body, but with very inconclusive results: it has, moreover, from very early times, been asserted, that man has not only a brain comparatively larger, with regard to the weight of the body, than the lower animals, but that he has positively a larger brain than any of them: neither of these propositions is absolutely true. It is in the development of the cerebral hemispheres, the complexity and volume of the apparatus (especially the corpus callosum), by which its several parts are brought into communication, and the increased extent given to the surface of the hemispheres, by means of the convolutions, that the brain of man rises above that of other mammalia. Nevertheless, the size of the human brain is a remarkable character; but, as if to prove that its superiority consists in the arrangement and development of its parts, it is smaller, compared with the bulk of the body, than in many of the passerine birds; and though it absolutely exceeds the brain of some of the large mammalia, it does not exceed the brain of all. In the rhinoceros, however, it is smaller than in man; for Sparrman found the cranial cavity in the enormous two-horned rhinoceros of Southern Africa to be only six inches long and four inches deep; and, on filling a skull of this animal with peas, it barely contained one quart; while a human skull, measured at the same time, required nearly three pints to fill it. Tiedemann observes, that the brain, in the average of the human race, attains its full size towards the seventh or eighth year\*. Its weight in the male varies between three pounds

\* Soemmering says, erroneously, that the brain does not increase after the third year. Gall and Spurzheim, on the other hand, are of opinion that it

three ounces and four pounds six ounces\*: in the female, between two pounds eight ounces and three pounds eleven ounces, Troy weight. In a child, six years old, Haller found it to be two pounds twenty-eight drachms and a half. In Tyson's chimpanzee, the weight of the brain was eleven ounces seven drachms, while the stature was only twenty-six inches; a proportion, Lawrence observes, equal to that of the human subject; which, however, is not the case, inasmuch as the shortness of the lower limbs of the chimpanzee, compared to the bulk of the body, renders the admeasurement of the animal fallacious, when opposed in this point of view to that of man. With respect to the comparative weight or size of brain between man and the lower animals, there is much difficulty in arriving at correct estimates, nor, when attained, do we derive any results of importance. Monro states, that 'he found the brain of a large ox not to weigh more than one-fourth part of the human brain, whilst the weight of the ox was six times greater than that of the man, or the brain of man was, in proportion to his weight, twenty-four times heavier than that of the ox.' On the contrary, according to Cuvier, the brain of the seal is larger in proportion to the body than in man, as is also that of the *sai* (an American monkey). But, admitting these facts, what is the inference? It cannot be concluded, from the latter, that the animals in question are intellectually superior to man; or, on the other hand, that the ox is inferior to these animals; it may, or it may not be—and, in either case, as is very plain, the mere size of the brain, compared with that of the body, affords no index, which is only to be sought for in the modification of its parts, and their respective degrees of development. Moreover, this test is invalidated by the fact, that while the weight of the body varies from a multitude of circumstances, it is increased by the development of the muscular system, resulting from athletic exercises, and by the accumulation of fat, or is diminished by emaciation during illness, or a flaccid state of the muscles: the weight of the brain is not sensibly affected, but remains stationary. Hence the contradictory scales of comparison given by different authorities. The ratio in the cat, for example, is stated by one author to be as 1 to 82, and by another as 1 to 156; and, according to the observations of different physiologists, in some dogs it is as 1 to 47, and in others as 1 to 305.

continues to grow till the fourteenth year. The brothers Wenzel have shewn that the brain arrives at its full growth about the seventh year, and this is confirmed by Hamilton's researches.

\* The brain of Cuvier weighed four pounds eleven ounces four drachms and thirty grains, Troy weight; that of the celebrated surgeon Dupuytren, four pounds ten ounces, Troy.

“ Seeing, then, that the size of the brain in comparison with that of the body could not be taken as the test of intellectual endowments, Soemmerring proposed, between man and other animals, a criterion which he considers to be much less deceptive than a comparison of the body with the brain; namely, that of the brain with its own nerves. His theory is, that, as far as mere animal existence is concerned, a small portion of the brain is sufficient to influence the nerves, and that, therefore, the surplus quantity beyond this small portion (a portion not determined) will be available for the purposes of intellectual operations; so that where the greatest surplus exists, there the highest intellectual capacity will be enjoyed. Man, for instance, whose bodily powers are only moderate, has the largest brain in proportion to the nerves, and to the demand made upon their agency as regards mere animal life. After man come the simiæ, as a further illustration of his position, to which he says he was conducted by a most careful and accurate comparison of a great number of brains; he remarks, that the largest horse’s brain in his possession weighed one pound seven ounces, and the smallest adult’s brain he ever met with exceeded this weight by fourteen ounces and a quarter; yet the nerves on the base of the former were of ten times greater magnitude than were those on the base of the latter. ‘ It must not, however, be concluded,’ he observes, ‘ that man has smaller nerves than any other animal. In order that my ideas may be better understood, I shall state the following hypothetical case:—Suppose the ball of the eye to require six hundred nervous fibrils in one instance, and three hundred in another, though only half the size of the former; and farther, that the eye with six hundred fibrils possesses a brain of seven, and that with three hundred of only five drachms; to the latter we ought to ascribe the largest brain, and a more ample capacity of registering the impressions made on the organs of vision; for, allowing one drachm of brain to each hundred fibrils, the brain which is absolutely the least, will have a superfluous quantity of two drachms, while the larger has only one.’ That the eye which is supplied with a double quantity of fibrils may be a more complete organ of sense, may be readily admitted; but the remark is inapplicable to the point in question.”

The author then proceeds to confute the statement of Soemmerring. He allows that man possesses a larger brain than any other animal, compared with its nerves, but denies that nerves of the same magnitude do require the same proportion of brain for the exercise of their respective functions; or that the same nerve in different animals demands an equal quantity; or, farther, that the proportion of brain required by a large nerve is greater than that required by one of inferior size; and moreover, to say, that

the size of the brain, compared with its nerves, affords an index of the differences existing between man and the lower animals, or between different animals, with regard to intellectuality, was an assumption unsupported by solid proof.

He considers that the most striking characteristic of the human brain consists in the prodigious development of the cerebral hemispheres—no animal, whatever may be the proportion which the brain bears to the body, affording a parallel. Not any quadruped approaches man in the magnitude of the hemisphere of the brain; namely, that part of the organ which serves as the principal instrument of the intellectual operations. Hence arises the corresponding development of the anterior portion of the cranium; the index, at the same time, of the development of the cerebral hemispheres, and of their predominance over the portion of the cerebral mass devoted to the external senses; and hence, also, is the volume of the cranium in man greater, compared to that of the face, than in any other mammal.

This part of the subject is illustrated by sketches, representing the upper surface of the brain of the chimpanzee, of the tigress, of the kangaroo, and of the wombat.

The chimpanzee is the most anthropomorphous, or man-like, of the simiæ, and accordingly we find an approach to man in the general form of the brain, and the proportions of its respective parts. Its general form, viewed from above, is a short oval, and the convolutions of the cerebral hemispheres are well marked. Nevertheless, the cerebellum is not completely covered by the cerebrum, but projects beyond the posterior line of the latter, so as to be visible, which, on reference to the brain of the human subject, will be found not to be the case in man. In the orang, the posterior projection of the cerebellum is carried somewhat further. In the feline animals, of which the tiger is an example, the brain presents us with a still greater departure, in form and proportions, from that of man:—the cerebellum is completely posterior to the cerebral hemispheres, the comparative magnitude of which is diminished, notwithstanding the convolutions are strongly marked. The medulla oblongata has now acquired a greater volume, proportionately to the mass of the brain, than is found either in man or the chimpanzee. Descending lower in the scale, we at last arrive at the marsupial group. The kangaroo shews the cerebral hemispheres, not, perhaps, so diminished in bulk or narrowed anteriorly, and almost destitute of convolutions on their surface. The cerebellum is remarkable for the development of its lateral lobes, and for the transverse striæ with which it is marked. In the brain of the wombat, the central lobes are, in form and smoothness, like those of birds, and do not cover the enormous olfactory lobes or ganglions which

may be seen projecting from the base of the cerebrum to some distance anteriorly. In the opossum the degradation of form is still more complete: the cerebrum is small, the olfactory lobes project greatly, and the optic lobes, or corpora quadrigemina, separate considerably between the cerebrum and the cerebellum.

For additional information we refer our readers to the work itself.

We well remember the time when an annual tirade used to be uttered against comparative anatomy, *ex cathedrá*. The late Professor used to say that he disliked comparative anatomy; for its mischief was, that it led to comparative physiology and comparative pathology. It would be a waste of time to shew the importance of this branch of study at the present period: the veterinary pupil now very well knows, if he wishes to practise his art in all its branches, and extend his medical assistance to all those animals that he will be called on to attend, he must be a comparative anatomist. He must be acquainted with the structure of the dog, the swine, the sheep, and the ox, as well as the horse. The consideration of the difference of structure in different parts, and the difference of function depending on that difference of structure, and the structure and function suited to the situation and wants of the animal, will unfold to him the most pleasing and sublime view of the design and adaptation of Infinite Power and Wisdom and Goodness; and the basis of his physiological principles will be rendered broader and deeper, in proportion as his survey of living beings is more extensive.

Indeed, in whatever light we view this study, it presents subjects of inquiry worthy of occupying a philosophic mind. The multiplicity and the endless variety of the objects about which it is conversant, agreeably exercise while they improve our mental powers, and their examination affords a healthy employment to our faculties and senses. The facts which the science presents to our contemplation, independent of their practical utility to the veterinary surgeon, are calculated to awake and engage the attention, to recall our thoughts from selfish and visionary pursuits, and to subdue the inordinate emotions and passions of our nature.

Truro, March 13th, 1840.

K.

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CATTLE PATHOLOGY. *By R. B. Gellé, Professor at the Veterinary School at Toulouse.*

[Continued from p. 60.]

#### DISEASES OF THE STOMACHS.

THE numerous branches which the stomachs of ruminants receive from the *pneumogastric*, or organic motor, and the *sympathetic* or secretory nutrient nerve, and the multiplied bloodvessels



which pervade the membranes of the stomachs, shew the importance of these organs in the animal economy. M. Gellé, contrary to the opinion of most cattle pathologists, and contrary, we confess, to that which we have been accustomed to maintain, believes that the stomachs of these animals, so extensive and so complicated, are peculiarly susceptible of morbid impression. He says, that the great development of the stomachs of the didactyls—their mode of digestion, effected almost entirely in these organs—the little extent of the intestinal canal in them, and which appears to be simply an organ of absorption—the necessity of rumination, and the frequent interruption to which it is subject in their state of domesticity—the enormous quantity of food which these stomachs contain—the nature of that food, and the absurd mode of feeding, all these are powerful causes of disease in the digestive organs. We will not agitate this question at present, but give a somewhat rapid sketch of the Professor's peculiar opinions.

#### METEORIZATION OF THE PAUNCH.

This disease consists in the sudden disengagement of gas in the rumen, considerably distending this stomach, pressing it against the diaphragm, and thus causing it to become a mechanical means of suffocation—always placing the animal in considerable danger, and, sometimes, producing sudden death. It is one of the cases of most common occurrence in veterinary practice, and is frequently complicated with other serious maladies.

Its causes are numerous and varied, and it is of frequent occurrence in proportion as the animal is removed from its natural state and habits. In the wild state of the ruminant—the wants of nature being freely supplied—this disease has never been recognized. It is comparatively rare where the animal is out at pasture during almost the whole of the year browsing at his leisure, but it is most prevalent where an artificial mode of feeding prevails. Trefoil, or lucern, or turnips, or, even luxuriant after-math, freshly cut for the stable, or eaten in the field, are the most frequent causes of hoove; and these kinds of food become more dangerous if they are damp, or covered with dew or white frost, or if they contain too much sap, as is generally the case when they are prematurely consumed.

The tumefaction of the paunch has been attributed by some persons to the property which those plants possess of disengaging a considerable quantity of gas, or to the vaporization of the dew, or any other moisture which they contain, and this effected by the increased temperature in which they are placed.

Any one of these causes may sufficiently account for the extrication of aqueous or other gas, or more than one of them may be acting



simultaneously. This meteorization rarely takes place, except when the animal has taken a more than usual quantity of food, and superior to the contractile power of the parietes of the rumen, and which can neither compress or resist the development of the gas—or, in other words, when the digestive power of the rumen can no longer counter-balance the power of the chemical affinities which are called into play among the aliments which it contains by the high temperature of this viscus. Nevertheless, I have seen animals very considerably meteorized after having eaten only a small quantity of these kinds of food; but then there was doubtless an unhealthy state of the stomach, or a want of tone and power.

A fermentation of the aliment does not always precede meteorization of the paunch; for the latter commonly takes place immediately after the ingestion of the food, while the fermentation of that food does not commence until rumination has been retarded or prevented by the accumulation of the food, or its refractory power, or some other cause.

There is a great difference in the susceptibility of different animals. Cattle and sheep become suddenly hoven and die, and, for the most part, upon the very spot, especially when some sudden showers have rapidly developed the vegetation of the lucern, or saintfoin, or the herbage, of whatever kind it may be, or when it is given to them freshly cut, or when they are first turned into these pastures. "I think," says M. Tessier, "that the frequency of tympanitis in these animals may be somewhat accounted for from the food having undergone a slight mastication after being swallowed, and having very incompletely imbibed the saliva and the mucus; while in the horse it is thoroughly masticated, and bruised and insalivated, and thus protected from the process of fermentation. It is also swallowed more slowly, and is not accumulated in so great a quantity as in the paunch of the ox, and, therefore, he is rarely exposed to this disengagement of gas.

The aliment contained in the abomasum of the ox, having been submitted to a second mastication in the act of rumination, and then having been triturated, and become further mingled with the fluids of the stomachs, rarely then undergo any disengagement of gas; but they are then found in the same state of attenuation and chymification as those which the stomach of the horse contains. The same species of indigestion, with distention of the stomach and vertigo, in the horse, attacks with decided preference, or, rather, is only observed in greedy and voracious horses, or in those which are gorged with food from the mistaken idea of their capacity for work being increased. In these cases, the aliment will be, like that in the paunch, imperfectly comminuted, incompletely insalivated—

easily susceptible of fermentation in the stomach, and more refractory under its action.

The tender and aqueous herbage of the natural meadows, and of which the vegetation has been rapid, is, in the early portion of the spring and autumn, a frequent cause of tympanitis. The animals pass from the austere severity of winter, or the parched soil of summer, to herbage in the greatest degree plentiful and succulent: hence *gastritis* and *enteritis*, as in due time we shall see.

M. Grogner observes, that the fatal disease which in Auvergne has the name of "*empansement*," is entirely attributable to their having been starved during the winter, and being turned in the summer into the fruitful valleys of Aurillac.

That which has been already said of artificial food, green and moist, is applicable to the watery grass of the meadows. This grass, however, is often more destructive than the artificial food, for it is covered with dew and with hoar-frost, which vaporise with great rapidity in the paunch, and dilate it to a painful or dangerous degree. It is likewise a matter of observation, that the depasturing on grass covered with hoar-frost, is a most fruitful source of abortion in cows and mares, whether that is to be traced to the meteorization of the paunch or the abomasum, or the large intestines, or, in more cases than are suspected, acute enteritis. The leaves of green cabbage, and all plants of that class, given in too great quantities, and whether freshly gathered, or wet and covered with dew, the animal being poor and hungry, cause the most fatal tympanitis: therefore M. Gellé used to recommend to his employers in La Vendée, where this was a frequent food for cattle, either to gather them some time before they were wanted, and to let them become somewhat dry before they were given to the cattle, and, indeed, to lay it down as a constant rule, that they should always be carefully dried.

It is also known that the *papillonaceous* plants, and the *cereales* especially, are often injurious if incautiously given. They suspend the digestive and contractile power of the paunch—they surcharge this stomach,—they distend it. They suspend the act of rumination there—they ferment—they agglomerate—they become hard and dry, and form masses which no mucilaginous or demulcent drinks can dissolve, nor will any ammonia or ether condense the gases which they disengage during their fermentation. Acorns will occasionally produce the same effect.

Potatoes, when they begin to germinate, are very dangerous. M. Gellé has seen several instances of the ill effect produced by them. The straggling shoots are the most pernicious. He particularly relates the case of a hog that died in consequence of eating some of them that were thrown on a dung-heap. The symptoms

were those of colic, accompanied by tympanitis, diarrhœa, and paralysis of the hind limbs. He also relates some cases of the peculiar state of atony to which the digestive organs of oxen were reduced by the same means. Some accidents that happened at Brunswick from giving to cattle the refuse after the distillation of brandy from potatoes that had germinated, induced that celebrated chemist, as well as physiologist, Professor Otto, to examine some of the berries of the *solanum tuberosum*, or common potatoe; and he obtained "a pearly white pulverulent substance, alkaline in reaction, and capable of uniting with acids. One grain of the sulphate of solamine killed a rabbit in six hours, and three grains a stronger rabbit in nine hours." These cattle, like the hog just referred to, exhibited paralysis of the hind extremities, as well as decided tympanitis\*.

Grass piled up in recesses of the stable or cow-house, and left unturned during a few days, has undergone a species of fermentation, which has produced dangerous hoove in cattle that afterwards ate of it. The same thing has also occurred from the weeds of gardens and corn-fields. The undue use of farinaceous substances, as barleymeal, oatmeal, &c., has caused this disease, probably because this kind of food precipitates itself by its proper weight to the bottom of the stomach, whence it is difficult to raise it again to the mouth for the purpose of rumination. Detained in the paunch, they after awhile undergo a species of fermentation, and tympanitis is the result. A well-informed veterinary surgeon has asserted this at one of the concours; and he says that the gurgling sound attending the extrication of the gas can frequently be heard—that nothing but an incision into the paunch, and the removal of the food, will save the animal, and that he has seen this farinaceous mass bursting out at the moment of puncture.

"I have also seen," says the Professor, "acorns, and wheat, and barley produce analogous effects; but I have been able to save the patients without incision or puncture of the paunch; and then, in order to prevent a return of the complaint, I have advised the farmer to crush the acorns, and to mix them, and the barley and the wheat, with hay-chaff, grossly cut, and completely enveloping them. I remarked that, after this, the kinds of food referred to were returned more easily to the mouth for the purpose of rumination. I have even been induced to believe that this proceeding has prevented the accidents to which we have been referring. Some experiments by M. Gasparin have proved that animals that have been fed entirely on sliced beet-root return this substance to the mouth for the purpose of remastication; whence we may con-

\* Vide Réc. de Méd. Vét. 1834, p. 49.

clude that pultaceous substances are always submitted to this second grinding, and that the dangerous effects of certain aliments arise simply from the facility with which they pass into a state of fermentation."

We have also seen bran, from its disposition to ferment, and from its being given in too large quantities, produce very serious meteorization.

M. Volley, V.S. at Aubigny, had a case of hoove in a cow, which was plainly traced to two pins that had entered the paunch with the food, and had penetrated through that portion of its parietes which abutted on the diaphragm, and also the diaphragm itself. She had had constant attacks of hoove, which had yielded occasionally to the administration of alkaline medicines, and enemas, and the employment of panadas, and to the habitual use of boiled leguminous seeds as food. The animal evidently suffered very great pain occasionally, and seemed to resist as much as she could the return of the food for rumination. At length some degree of distention of the stomach followed every meal, from the fermentation of the imperfectly ruminated food. Ultimately the veterinary surgeon prevailed on the owner to have the animal slaughtered. On post-mortem examination, he found that the interior and anterior wall of the paunch was pierced, in a direction from within outwards, by two brass pins, which pierced also the diaphragm, and united these two organs together, and prevented that contraction of them which was necessary for the ascension of the pellet of food to undergo the process of rumination.

In a memoir that was presented to the Royal Society of Agriculture, by M. Tressigner, in 1824, was related the case of a young calf that died from distention of the paunch by means of a hair ball, which was found in an unnatural depression, near the opening of the œsophagus into the rumen, in such a manner as to hinder the return of the food to the mouth for the purpose of rumination. The only symptoms by which this singular affection was accompanied were extraordinary thinness, and frequent hoove, so that the actual cause was not suspected for a moment. If it could be anatomically and physiologically demonstrated that the paunch was merely an appendix to the abomasum or true stomach of ruminants—that it is an organ in which the aliments are submitted to a certain modification which prepares them for digestion—if experience and observation had proved that many causes could suddenly disturb the functions of this viscus, and produce, among other effects, a considerable disengagement of gas, which enormously distends this stomach, this disease would be truly a species of indigestion: but it is erroneous to say, when speaking of meteorization of the paunch, that where there is no digestion ever going forward, there can, pro-

perly speaking, be any indigestion, inasmuch as rumination is only the commencement of digestion, and a physiological phenomenon merely preparatory to the function of the abomasum.

*The Diagnosis* of meteorization of the paunch is sufficiently plain. Sudden and spontaneous tympanitis is its essential symptom. It may occur without any indication, whatever may be the cause. The meteorization which is complicated with gastritis and gastroenteritis is not manifested until after the development of the primitive disease.

*Prognosis.*—Every sudden and considerable meteorization is a serious affair, and especially when the difficulty of breathing and the anxiety of countenance and manner are extreme. Suffocation or cerebral congestion are then imminent. The prognosis is unfavourable in these cases, as it is also in meteorization produced by overloading of the paunch. The inertia of the membranes of the rumen is sometimes in these cases beyond the reach of art, especially in animals out of condition, or enfeebled by insufficient food or by age. It then takes, in despite of the operation of extraction of the food, a chronic character, and there frequently supervenes a fatal diarrhœa, or the operation of gastrotomia is followed by fatal peritonitis. The meteorization produced by bran in a state of fermentation, or by provender that is filthy or decayed, by potatoes that have germinated, or by the weeds in wheat mingled with poppies, is in the highest degree serious, because these substances, beside the properties refractory to the action of the paunch with which they are surcharged, and the fermentation which their accidental continuance in the rumen causes to be developed, furnish also other gases, which have narcotic properties, and produce fatal effects. One of my colleagues tells me, that in this tympanitis the disengaged gases have sometimes a septic property, which empisons the blood, since in some cases he has observed tumours resembling those which are manifested in the putrid varieties of fever.

Hoove, when existing to a very great degree, may produce abortion by the compression which the paunch must exercise on the uterus, a compression which interrupts the placental circulation, produces detachment of that foetal membrane, and death to the foetus, and all the accidents which accompany premature expulsion.

Chabert had asserted, that the gas extricated in this disease is the carbonic acid. More analyses have been effected since his time. M. Plucher de Soleur received in October 1825, from M. Luthi, M.V. a vessel filled with gas collected from a cow exceedingly meteorized, and on which he had operated. It had a strong and foetid odour, which was observed as it escaped from the puncture. After having been passed through several glasses or reci-



pients, through the means of a pneumatic trough filled with distilled water, the gas yet retained a most disagreeable smell. It was colourless, and contained three-fifths of carbonic acid gas, and two-fifths of carbonic oxide gas.

The analysis of another vessel, taken a few days afterwards from the rumen of another cow that was hoven, contained the same chemical elements, but the carbonic and gas amounted to four-fifths of the whole.

Gmelin, who also decomposed this gas, obtained from the paunch of a cow that was hoven from eating an immoderate quantity of trefoil, 80 parts of hydro-sulphuric acid, 15 of carburetted hydrogen, and 5 of carbonic acid.

M. Lassaigne, who also occupied himself with the analyzation of the chemical composition of the gas obtained from the paunch of a hoven cow, and experimented on three hours afterwards, found 29 parts of carbonic acid gas, 14.7 of oxygen gas, 6 of carburetted hydrogen gas, and 50.3 of azote.

The carburetted hydrogen contained in the gas held in its composition a middle place between the proto and the deuto-carburetted hydrogen. It was formed of two parts of hydrogen and one and a half of carbon.

The analysis of M. Plucher shews the predominance of the carbonic acid in the gas submitted to his examination; the hydro-sulphuric acid formed four-fifths of that submitted to the investigation of Gmelin; while the carbonic acid formed a half, and the carbonic acid only a quarter, of that on which M. Lassaigne experimented.

What does this difference in the result of the analyses, conducted by men whose reputation stands so high, prove? Either that the causes of the meteorization were not the same in the different animals from which the gases were collected, or that the circumstances of the animal or the periods of the disease were different. It is, perhaps, this difference in the chemical composition of the gas which has caused the use of ammonia and other alkalies by a great number of veterinary surgeons, and sulphuric ether by others, and the spirit of balm (melissa) mingled in the mucilagnous drinks of others.

The reader will find some very useful remarks on the nature of these gases, and the remedies to be employed in hoove, in the 4th volume of *THE VETERINARIAN*, p. 337. It is extracted from the *Récueil de Méd. Vét.*

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## VETERINARY BIBLIOGRAPHY, AND WEIGHTS AND MEASURES.

Sir,—IN the course of an inquiry as to the history of weights and measures in Greek and Roman times, with a view of illustrating those of the middle and feudal ages, I stumbled on the following account of those employed by the professors of the veterinary art among the Greeks, which is attributed by Gronovius, in whose ponderous tomes I found it, to Galen, the learned commentator on that prince of medicine, Hippocrates. This led me to a search after the works of other ancient writers alluding to the veterinary art, the result of which, should you deem it sufficiently interesting for your pages, is much at your service.

The earliest is that of Xenophon, "*De Re Equestri*," which was translated and published in 1584, with this title, "*The Art of Riding set foorth in a brieve Treatise.*"

Columella was a native of Spain, and flourished under the Roman Emperor Claudius, A.D. 42. He wrote some books which have been commonly printed with the "*Scriptores de Re Rustica*," and as early as the year 1472.

Vegetius, a Latin writer of the fourth century, was probably a military man in the service of the Emperor Valentinus. His principal work was on Military Tactics, of which there have been many editions, and some English translations, the earliest of which is here mentioned as a rare specimen of printing, soon after that useful art had been discovered. It is thus entitled, "*The Fayt of Armes and Chyvalry, from Vegetius.*" This Boke which Christina of Pisa made and drewe out of the Boke named '*Vegetius de re militari*'; which Boke, being in Frensche, was delyvered to Will<sup>m</sup>. Caxton by the most Crysten Kynge Henry VII, and desired and wyllled to translate this said Boke and reduce it into our English and natural tonge, and to put it in enprynte: whiche translation was finyshed, and enprynted the xiiii day Juyll, 1489." Folio.

There is another work extant under the name of Vegetius, and probably by the abovenamed author, Flavius Renatus Vegetius. It is entitled "*Artis Veterinariæ, sive Mulo-medicinæ libri quatuor*;" and was printed at Basil in 1524, and again in 1574; of which there is also an English translation, entitled "*Vegetius Renatus of the Distempers of Horses, and of the Art of curing them; as also of the Diseases of Oxen, &c.*" By the author of the translation of Columella. London, 1748. 8vo.

Thomas Blundeville was born at Newton Flatman, in Norfolk. Among many scientific works he wrote "*The four chiefest Offices*

belonging to Horsemanship: that is to say, the Office of the Breeder, of the Rider, of the Keeper, and of the Farrier. To which is added, the Order of Dietynge of Horses, as well when they rest as when they travel: as also, the Order of curing Horses' Diseases, together with the Causes of such Diseases; the Signs how to know them, and finally how to cure them." (**Black letter.**) London, 1580. 4to.

Another work of Blundeville's was, "A New Booke, contayning the Arte of Ryding and Breaking great Horses, together with the Shapes and Figures of many and divers Kyndes of Byttes mete to serve divers Mouthes. Very necessary for all gentlemen Souldyours, Serving-men, and for any Man that delighteth in a Horse." Lond. 8vo.

The works of regular Ippoiatrical writers less generally known, but possibly containing many of the acute observations our less scientific predecessors were necessarily obliged to make, in order to enable them to practise the noble art of administering to the various "ills that flesh is heir to," whether of horse or rider, are, "A Treatise upon Veterinary Medicine," by Archemedus, a Greek writer; translated into Latin by Ruellius, and published at Paris in 1530, and, in 1537, at Basil, in the original Greek: and a work on Veterinary Medicine in Greek, by Litorius, of Benevento; also rendered into Latin by Ruellius, and published at Paris in 1530, and at Basil in 1537, probably with the work of Archemedus just mentioned.

Ruellius was born in 1474, and died in 1537; and the two books on Veterinary Medicine attributed to him are, no doubt, those of Archemedus and Litorius.

Æmilius was probably a Spaniard. He likewise wrote a Greek work on Veterinary Medicine, published at Basil in 1537, and translated into Latin at Paris 1560.

Bonnetrie was an advocate to the Parliament of France, and translated, we believe, all the aforesaid ancient Latin works, and others relative to Agriculture and Veterinary Medicine, with notes, which he published at Paris in six volumes 8vo, between the years 1772 and 1775.

Jarvis or Gervase Markham, who flourished in the reigns of James I and Charles I, wrote several Treatises on Husbandry, Sporting, Horsemanship, and the Veterinary Art, from which we have selected the following:—How to chase, ryde, trayne, and dyet both Hunting Horses and Running Horses; and a Discourse on Horsemanship and the cure of their Diseases. London, 1596, 4to.—Cure of all the Diseases incident to Horses. London, 1610, 4to.—An Epitome concerning the curing Diseases of Horses and other Cattle. Lond. 1616, 8vo. The most curious of his works is called "Cavallarie;

concerning Horses and Horsemanship, as much as is necessary for any man to understand, whether he be horse-breeder, ryder, hunter, horse-runner, horse-ambler, horse-farrier, horse-keeper, coachman, smith, or sadler. Together with the discovery of the subtil trade or mystery of horse-coursers, and an explanation of the excellency of a horse's understanding: or how to teach them to do tricks like Bankes his Curtall (curt-tail dog): and that horses may be made to draw dry-foot like a hound. Secrets before unpublished, &c. &c." London, 1617, 4to.—Cheap and good Husbandry for the well ordering of all Beasts and Fowls, and for the general Cure of their Diseases. Lond. 1631.—Faithful Farrier: discovering some Secrets not in print before. Lond. 1635, 8vo.—Another edition of this last appeared in 1649, 4to, under the title of "The Master-piece of Farriery," containing all knowledge belonging to the Smith, Farrier, or Horse-Leach: touching the curing all diseases in Horses, with a Treatise on Curing the Diseases of Lesser Cattle. Lond. 1656, 4to: which was again printed in 1675.

Buchoz, physician to the late King of Poland, was a great naturalist, and wrote a Veterinary Dictionary, with a Description of Domestic Animals, containing their manners, characters, and anatomy; the method of feeding and governing them; the aliments proper for rearing them; the diseases to which they are subject; and their several properties, as well for medicinal purposes and the food of man, as for all other uses of civil life: to which is subjoined a "*Tauna Gallica*." Published at Paris, 1772, in 2 vol. 8vo, with plates.

Exleben also, an eminent naturalist, born at Quedlinburg, in 1744, published some Practical Observations on the Veterinary Art in 1774.

With the several learned works on Veterinary Science by Mr. James Clark, and some hints for improving the Healing and Veterinary Art by Mr. Champney, published at London in 1797, in his work on Medical and Chirurgical Reform, we have mentioned most, if not all, of the classical veterinary literature previous to the present century.

I subjoin what certainly must prove useful to your readers of modern French veterinary works, viz., Tables of the Values of the old and new French Weights and Measures, compared with those now used in our own country.

I am, Sir,

Your's, very respectfully,

PLANTAGENET.

*Hippiatricorum, sive Veterinariorum ponderum epitome.*

Mina .....	habet.....	uncias quindecim.
Libra .....		drachmas nonaginta.
Uncia .....		drachmas septem et dimidiam.
Drachma vel Olos.....		scripula tria.
Scripulum vel gramma .....		obolos duos (di-obolus)
Obolus		

Ceratium.....	idem quod.....	siliqua
Sextula .....		scripuli vi.
Sicilicus.....		scripuli iv.
Scripulus .....		siliquæ vi.

Hæc in libello de ponderibus, qui GALENO inscribitur.

*Modern Measures of Capacity.*

ENGLISH.		FRENCH.
Pint .....	0.567932	litre
Quart .....	1.135864	litre
Gallon..... imperial.....	4.54345797	litres
Peck..... 2 gallons.....	9.0869159	litres
Bushel .....	8 gallons.....	36.347664 litres
Sack .....	3 bushels .....	1.09043 hectolitre, 100 litres
Quarter .....	8 bushels .....	2.907813 hectolitres
Chaldron.....	12 sacks .....	13.08516 hectolitres.

FRENCH.		ENGLISH.
Decilitre.....	10th of a litre	
Litre .....	decimetre cube	{ 1.760773 pint
		{ 0.2200967 gallon
Decalitre.....	10 litres .....	2.2009688 gallons
Hectolitre ....	100 litres .....	22.009668 gallons
Kilolitre .....	1000 litres.	

*Modern Weights.*

ENGLISH TROY.		FRENCH.
Grain .....	24th of pennywt...	0.065 gramme
Pennyweight, 20th of ounce ....	1.555	gramme
Ounce.....	12th of pound ....	31.091 grammes
Pound troy imperial .....	0.373096	kilogramme.

ENGLISH AVOIRDUPOIS.		FRENCH.
Drachm .....	16th of ounce ....	1.771 gramme
Ounce.....	16th of pound ....	28.338 grammes
Pound avoirdupois imperial.....	0.4534	kilogramme
Hundred weight, 112 pounds...	50.78	kilogrammes
Ton.....	20 hundred wt.	1015.65 kilogrammes.

FRENCH.		ENGLISH.
Gramme .....	{ 15.438	grains troy
	{ 0.643	pennyweight
	{ 0.0322	ounce troy
Kilogramme.....	{ 2.6803	pound troy
	{ 2.2055	pound avoirdupois.

*Note.*—The metre is the ten-millionth part of the quarter of a terrestrial meridian (dix-millionieme partie du quart du meridien terrestre), and is the fundamental unity of the new French weights and measures.

One thousand kilogrammes is the weight of a cubical metre of water, and of a nautical ton measurement (mille kilogrammes, poids du metre cube d'eau et du tonneau de mer).

One thousand grammes (kilogramme) is the weight of a cubical *decimetre* of distilled water at the temperature of four centigrade degrees. (Poids dans le vide d'un decimetre cube d'eau distillée a la temperat. de 4° centigrades.)

A gramme is the weight of a cubical *centimetre* of water.

The ancient terms, 'grains, gros, onces,' and 'livres,' are no longer used.

10 grains are equivalent to	0.53 gramme
1 gros .....	3.82 grammes
1 once .....	30.59 grammes
1 livre .....	0.4895 kilogramme.

1 Gramme is equal to 18.8 grains; and 1 kilogramme, i. e. 1000 grains, to 1 livre 0 once 5 gros 35.15 grains.

Multiply the value of the kilogramme by 0.4895, for that of the livre.

Multiply the value of the livre by 2.0429, for that of the kilogramme.

*From the "Annuaire," by the French Board of Longitude.*

MISCELLANEA.

THE MEDICAL MEN, AND THE VETERINARY SURGEON.

[We give this as we find it, without answering for its truth. It may amuse our readers for a moment.]

ABOUT two years ago, a murder was supposed to be committed near the village of Lauzerte. Laroque, a carrier, disappeared from that part of the country, after having passed the night in the cottage of a man named Boredon, and with whom he was connected in business. Some remarkable circumstances occurred at that time: cries had been heard in the night, and strange expressions had been used by Boredon to his neighbours, which attracted their attention, and, very soon, they began to regard him as the assassin of the unfortunate carrier. The magistrates were informed of these circumstances; and they caused Boredon to be arrested and brought

before them. The charge, however, did not appear to be sufficiently proved, and he was set at liberty.

Some months afterwards, a labourer, returning from his work, passing before the house of a person named Levignac, perceived a horribly nauseous stench. He went into the house, and found that the smell proceeded from an oven. In despite of the horrible fears which began to steal over him, he opened the oven, and there he saw a quantity of bones almost consumed. Doubtless, thought he, these are the remains of the unfortunate Laroque: Boredon was not his murderer, and was falsely accused. This, this is the criminal, who is now endeavouring to destroy by the fire the proofs of his crime. The news of this horrible discovery soon spread abroad: it was first whispered from one to another—the popular clamour increased, and the storm was about to burst. It is impossible to say what would have happened, if a magistrate had not arrived, and substituted the regular process of law for the summary justice of an exasperated populace. Levignac was arrested, and conducted to prison. He vainly protested his innocence. Were there not the most overwhelming proofs against him? The bones which he was attempting to reduce to ashes! was he not attempting to destroy the last trace of his crime? He, endeavouring to avert the fate which justly awaited him, would make them believe that these fearful relics never belonged to a human being, and that he was only trying to make some animal charcoal. The falsehood was too gross to be for one moment believed, and the examination of some scientific men would soon dissipate the delusion.

The medical men of Lauzerte assembled, and, after a long and conscientious inquiry, they declared that the bones were portions of a human skeleton.

The judges, unwilling to neglect any thing that could develop the mystery, summoned all the scientific men of the district, and held a second inquest at the court-house of the arrondissement. The opinion of the practitioners of Lauzerte was confirmed. A *tibia* particularly attracted the attention of the medical men. "This could only have belonged," said they, "to a man of very considerable bulk, and it was recollected that the unfortunate Laroque was a man of Herculean form. In the face of proofs like these, justice could do no other than pursue its course; and the accused was sent to the dungeons of Moissac, to commence the expiation of his crime.

While these proceedings were going forward, a case of robbery brought as one of the witnesses a veterinary surgeon, living at Tarn-et-Garonne, some leagues from Moissac, and who enjoyed a



considerable degree of reputation in his profession. It occurred to the judge that he would cause the bones to be examined by this man. "These," said the veterinary practitioner, "belonged to an ox." "How! Are you sure of that? Do you know that we have the strongest reasons to believe that they are the bones of a human body, and the indubitable proofs of a horrible crime?" "Sir," replied the man, "all these bones belonged to an animal of the ox tribe. See this tibia, particularly: it does not leave the slightest doubt about the matter. Give me a few minutes, and I will convince you of this." He went and found a leg of beef in the shop of one of the butchers in that town. He burned it, and presented it to the magistrates, united to a tibia the very picture of the one which had been examined. The medical men acknowledged their error, the prisoner was liberated, and returned to his hut and his oven.

*Gazette Spéciale, Agricole et Vétérinaire, 16 Août, 1838.*

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#### THE BOTANICAL AND AGRICULTURAL CHAIR IN THE VETERINARY SCHOOL AT ALFORT.

Conformable to a decision of the Council of the Professors, the Inspector General of the Schools presiding, it was determined that a new chair should be established in that school, comprising agriculture and hygiène, or the art of feeding and multiplying cattle. Those on agriculture containing its fundamental principles, the rules by which its practice is to be governed, and its numerous connexions with the especial objects of the study of the veterinary pupil, furnished the principles of a course of lectures delivered by M. Rodet in the course of the last session.

In the scholastic year about to commence, the course of *hygiène* will be delivered, comprising the agents which naturally, or under the influence of man, exercise or are made to exercise their action on the animals which we rear for food or other purposes. This will naturally include the art of multiplying the different species with advantage, and of improving the various breeds—of feeding and of managing them so as to enable them better to answer the purposes for which we breed them—of governing them at different ages according to their services and their produce, and so as to obtain from them a greater portion of labour or of general profit.

This will necessarily include botany, or the classification and history and management of the various plants which are used for food or for medicine, or for commercial or other purposes.

These are the courses of instruction now delivered in every ve-

terinary school on the Continent ; and the English school now promising to be more like that which the interests of the pupils and of the country demand, must follow the example of those in other countries.

*Réc. de Méd. Vét.*

#### LIABILITY OF VETERINARY SURGEONS TO SERVE ON LEET JURIES.

On the 27th ult., a meeting of the St. Pancras Vestry was held at the Vestry Room, Gordon Square, for the purpose of swearing in the Leet Juries and Inspectors of Weights and Measures for the several districts of the parish. Amongst a great number of objections made by the parishioners summoned for this purpose, was one by a veterinary surgeon named Vines, who claimed to be exempt upon the same grounds as other surgeons, barristers, &c. He contended that his claim to exemption was good, inasmuch as, whilst he was engaged in performing the duties incumbent on inspectors of weights and measures, he might be called out, and required to attend a valuable horse that might be taken ill. His refusal to do so would render him liable to action, and the person bringing it would be sure to recover damages. A vestryman asked if the claimant had ever served on a jury of any description? Mr. Vines said he never had been summoned on a jury, either at the Court of Queen's Bench or the Central Criminal Court, or he should certainly have submitted the same ground of objection to serve. After considerable discussion among the vestrymen, *the objection was decided to be a good one, and the claimant exempted.*

[This is a grand point gained. Mr. Vines deserves the thanks of the profession for his firm and successful resistance.—P.]

#### GENTLEMEN WHO HAVE PASSED THEIR EXAMINATION AT THE ROYAL VETERINARY COLLEGE, LONDON.

*March 4th, 1840.*

Mr. Philip Clegg, London.

*March 18th, 1840.*

Mr. Leonard Revis, Melton, Yorkshire.

— Richard Mackinder, Whaplade, Lincoln.

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VETERINARIAN.

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THE EPIDEMIC AMONG CATTLE.

“ ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

“ THE President and Council having referred the consideration of the subject of the present Epidemic among Cattle, &c., to the Veterinary Committee to report a concise and practical statement of its symptoms and treatment, for the information of the members, the committee, in concert with Professor Sewell, have drawn up the following recommendations of the simplest remedies at present in use for arresting the progress of the disorder; but as the object of the council is to collect as well as to disseminate information, and inasmuch as the disease varies in its character, according to locality and the circumstances under which the animals are placed, the council request, that, should any cases occur dissimilar from those described, or any other remedies be found efficacious, they may be fully communicated to the secretary.

“ JAMES HUDSON, Secretary.

“ 5, Cavendish Square, April 8, 1840.”

“ This disease, like the epidemic or influenza among horses during the spring of 1836, being in many instances of a slight nature, the constitution does not always suffer from fever, either of the typhus kind or of an inflammatory character, and recovery takes place without the administration or application of medicinal agents. The attack does not always commence in the same form, but ultimately terminates in a general disease of the same type and character: in some animals it commences in the feet, between the claws, and in others it appears to have begun in the mouth; in others a stiffness in the legs of the animals is first perceived, as if treading upon thorns and briars: then follows a discharge of saliva from the mouth, and a champing of the lips, accompanied with blisters on the tongue, palate and lips: the blisters peel off, and loss of appetite and general debility ensue.

“ As the disease appears occasionally to partake both of inflammatory action, and also to assume the appearance (if neglected) of a low fever, Professor Sewell, of the Royal Veterinary College,

recommends, in the first place, strict attention to the regimen, dry and warm lodging, fresh air, giving the cattle plenty of dry bedding, and keeping them clean.

“ From all the information received by the Society, the disease appears to commence with slight inflammatory action, in which case the farmer should immediately take measures to check its progress by the administration of sulphur combined with Epsom salts, or other mild aperients, as castor oil, cold-drawn linseed oil, aloes, &c.; and, should cough or difficulty of breathing denote an attack of fever, bleeding may be resorted to; but if the symptoms do not yield to this treatment, the owner should immediately apply to the most experienced veterinary surgeon in his neighbourhood; and if such a one should not be at hand, Professor Sewell recommends the following treatment:—

“ *Mouth, Tongue, Palate, Lips, and Throat.*—For the blisters of the mouth, &c., the most simple remedy will be found to be a weak solution of sulphate of copper (blue vitriol), in the proportion of one ounce to a pint of water. This lotion will be found useful for the blisters which appear in any other parts of the body, excepting the feet, in which case poultices are preferable, as allaying the pain and inflammation. If sore throat attends the attack, apply a seton under the throat.

“ *Feet.*—Pare away that horny part of the hoof which has become separated from the foot by the disease, and then apply, in the first instance, a warm poultice of bran, oatmeal, or linseed meal, followed by the use of fomentations of milk-warm water, and continue this treatment until the inflammatory symptoms are abated. Then use the lotion abovementioned. In some cases of foul ulceration, and the appearance of proud flesh, apply a saturated solution of blue vitriol.

“ *Remark.*—The feet are found to do best by being left unbandaged, and the animal should be allowed a good bed of clean dry litter.

“ *Teats and Udder.*—These require the same application of fomentations and lotion as in the case of the feet.

“ *Remark.*—The milk should be drawn three or four times a-day, to relieve the udder of that painful distention which appears to cause the formation of milk abscess (called garget). This abscess, when formed, should be fomented as before, opened with a lancet, and dressed with digestive or drawing ointment: abscesses in any other part of the body are to be likewise freely opened and treated with the same applications; and in every case they ought to be examined and cleaned twice a-day.

“ *Sores and Ulcers upon the Body or Limbs.*—To be washed with the saturated solution of blue vitriol.

*“ Lungs and Chest.*—When the lungs appear to be affected by shortness or difficulty of breathing, by laborious heaving of the flank and quick pulse (from sixty and upwards), coldness of the horns, ears, and muzzle, bleed from the neck according to the age, size, and strength of the animal: insert a seton in the dewlap near the chest.

*“ Medicinal Treatment.*—Mild aperients, namely, either four ounces of sulphur in warm gruel, or half a pint of cold-drawn linseed oil alone, or six ounces of Epsom salts dissolved in a quart of warm water. When the bowels are opened give a cooling diuretic, such as an ounce of saltpetre dissolved in a pint of warm water.

*“ Liver.*—If a yellowness of the eyes and mouth, with a confined state of the bowels, shew the liver to be affected, proper doses of calomel should be administered in conjunction with the aperient purgatives. One drachm by weight of calomel will be sufficient for a dose.

*“ Stomach and Bowels.*—To correct acidity and tendency to putrescence in the food obstructed in the stomach and bowels, give one ounce of common pearlashes or washing soda dissolved in gruel, to which is to be added half an ounce of powdered ginger; the whole mixed with warm ale: and when much inward pain or uncomfortable feeling be evinced by the animal, one ounce by measure of laudanum may be added. Should irritation exist in the bowels, as shewn by the animal shifting about, lying down, looking at the flanks, and moaning, apply hot cloths to the under part of the belly, and, as soon as possible, a blister (either in the form of liquid or ointment).

*“ Kidneys.*—Should the urine appear tinged with blood, denoting some affection of one or both kidneys, apply hot fomentations to the back and loins, or a fresh sheep-skin with the inside placed upon the back of the animal: avoid all diuretic medicine, and give drink sparingly.

*“ General Treatment.*—A general rule cannot be safely recommended by which to combat the disease in all situations, the more vigorous constitution of cows in the country having been successfully treated by the active depletion of bleeding and purgatives, which have, on the contrary, proved fatal in the plethoric but enervated cows of the London dairies; but, in every case, too great a stress cannot be laid on the absolute necessity of the strictest cleanliness; and, with regard to the diet, mucilaginous drinks will always aid recovery, as oatmeal, linseed (whole or bruised), starch, either of these being boiled with water into a thick gruel; and the best produce of the farm ought to be given for the food of the diseased animal. When the disease has been subdued, leaving the animal in a weak state, a chalybeate tonic will be found of much use, namely, an ounce of sulphate of iron (commonly known

in the country as green copperas) dissolved in a pint of warm water, twice a-day. As the disease rapidly changes in its character, it will be highly necessary to apply the remedies in the earliest possible stage of the disorder.

“N.B. SHEEP.—The foregoing treatment applies to sheep, taking into consideration the local circumstances under which they are placed, care being taken that the doses are moderate and suitable to sheep.

“In addition to these remedies of Professor Sewell, the committee would strongly recommend the disordered animals to be kept apart from the other stock, as there is much doubt whether the disease does not partake both of an epidemic and infectious character.”

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[We mean not to say one word for or against the treatment recommended in this circular, which has doubtless found its way to most of our readers, and to a very great number of agriculturists. There are circumstances connected with the welfare of our art of immediate and pressing moment, and which enjoin on us the strictest silence; but we may be permitted to say to the English Agricultural Society, that we think they have acted a little hastily, and not a little injuriously, to the farmer, while they have done some wrong to the veterinary practitioner.

It was natural for them to be exceedingly anxious with regard to the unusual prevalence of the epidemic which has for several months appeared among cattle, and especially milch cows; to which so many have fallen victims, and which is still destroying its thousands:—it was natural that they should apply to the quarter whence they could derive the most correct knowledge of the nature, cause, symptoms, complications, general treatment, and probable result of such a disease:—it was natural to diffuse this knowledge where it would be understood, rightly appreciated, and useful: but was it prudent to send to every member of the Society—and through the medium of the press it has ere this found its way to every farmer, and to every menial—an account of a malady which “does not always commence in the same form;” but “in some animals it commences in the feet, in others in the mouth, in others in the legs, and in some is accompanied by blisters of the tongue and lips?” These are diseases different in their origin, different in their treatment, and different in the organs to which they belong? Is there no danger of error?—no danger of such people becoming charlatans and quacks, and, in not a few instances, aggravating the evil which they attempt to cure?

The Professor very properly states, that this epidemic “*partakes both of inflammatory action and of low fever.*” How is the



farmer or the bailiff to steer between this Scylla and Charybdis? Why, according to the instructions here given, he is fearlessly to pursue his course. I am not speaking in disparagement of these persons, for some of our best practitioners have wandered where they are urged fearlessly to proceed. They are to purge and bleed, and then, when the disease will not yield to their treatment, that is, when the game is up, they are to apply to "an experienced veterinary surgeon." Surely such a course must, in the long run, be destructive to an almost incalculable extent! Is there the man of good sense and of humanity who would advise the nurse and the empiric to act in the same manner with regard to the human being? Would he permit any member of his own family to be subjected to such hazardous practice?

What, then, would we have done? Precisely what every board of health would have done, and does. We would have inquired thoroughly into the case. We would have requested Professor Sewell to throw the whole into proper form and order; or, perhaps, as in the present instance, we would have taken his opinion from the beginning, and then we would have sent this document to every certificated veterinary surgeon in the United Kingdoms. Our purpose would be fully effected, and in the legitimate and safe and honourable way. This is the only document of the kind which exists in veterinary medicine. The records of human medicine contain nothing similar to it.

It was done in a moment of inadvertence; and the most inadvertent and culpable of the whole set—if he knew what use was about to be made of his communication—was Professor Sewell. He is sufficiently convinced of this ere now—we will therefore let it pass; but it is our sincere wish that every benefit which the committee contemplated may be more than effected, and not one of the evils occur which we apprehend. The Essays on the subject of Cattle Medicine, which immediately follow this remonstrance—and the author of not one of them was directly or indirectly prompted—will give a pleasing and faithful representation of the knowledge of the diseases of cattle which a great many of the country veterinary surgeons have acquired, notwithstanding the almost perfect state of ignorance of the subject in which they were accustomed to be dismissed from the Veterinary College. Nothing is now needed but a little of the support of the English Agricultural Society, and the obtaining a teacher who has seen and studied and treated the maladies to which cattle are liable, to make us as useful as we are anxious to be, and as we ought, long ago, to have been to the agricultural public.]

Y.

## A CASE OF PARTIAL PARALYSIS OF THE POSTERIOR EXTREMITIES OF A COW FROM PRESSURE ON THE SPINAL COLUMN.

*By Mr. C. DICKENS, V.S., Kimbolton.*

*Jan. 7, 1840.*—I WAS requested to visit a fine short-horned cow, the property of a cottager seven miles from this town, that had, after the usual period of gestation, calved about six weeks before, but had ever since gone on very badly, and was daily wasting away. I found her with little appetite—bowels much constipated—pulse languid—skin tight and unhealthy; and she gave but little milk.

She had been from the time of parturition until now under the care of a person who calls himself a skilful cowleech, who had given her several drinks, and ordered a large quantity of currant gruel daily, with a view, as he stated, of nourishing and healing her inside: but, all proving of no avail, I was applied to.

In addition to the symptoms already enumerated, she straddled much with her hind legs, and, when roused, the membrana nictitans of both eyes was suddenly thrown over them to as great an extent as is sometimes seen in tetanus in the horse. On turning her out, this latter symptom, with the straddling gait, became far more perceptible; the latter so much so that she could scarcely keep her equilibrium. Such symptoms told me that mischief existed somewhere in the spinal column; and, on pressure being applied over the seventh dorsal vertebra, she was observed to flinch very much, and an enlargement was readily perceptible. In short, ossific deposit was being thrown out, the result of external injury, and was pressing upon the spinal column, and consequently interfering with the functions of some portion of it—what portion I will not venture to say, as I believe wiser heads than mine are yet at issue upon that point. The owner recollected her slipping with her hind legs beneath her in getting up a few days before calving.

*Treatment.*—I cut the hair as close as possible, and actively blistered the injured portion of the spine. I divided magnes. sulph. lb.ij, pulv. digital. ʒij, et antim. tart. ʒij, into four powders, and administered one in a quart of tepid water every alternate day. Fancying that she had been living upon slops long enough, I ordered her gruel to be discontinued, and that she should be plentifully supplied with water, and have hay or bran and oats to eat; for, friendly as I am to the exhibition of gruel, &c. to my patients in affections of the mucous membranes, I am equally persuaded that we may in ruminants carry the nursing system too far, until they become so habituated to it, that they care not for that natural food

which, by its gentle stimulus, would gradually bring the stomachs into action. As we generally look on a return of rumination as a favourable omen; so ought we carefully to give them that food which will induce it.

I saw her again on the 16th, and found considerable improvement. Her milk had increased—her appetite was good—the skin was more healthy; and she walked far better.

Insert a seton near the seat of injury, and give one of the powders every fourth day.

At the end of the month she had perfectly recovered, except that there was a slight protrusion of the membrana nictitans of the eye, which gradually disappeared.

I am pleased to see that the ills of our horned patients are becoming more noticed at head quarters. I will pledge myself that no student who intends practising in the country will regret the time he devotes to them during his pupillage.

I have no doubt that there are many of my brethren who, like myself, during their professional career, have occasionally received some little extra recompense or reward for having been instrumental in saving the favourite hunter or hack of some generous owner; but pleasing and gratifying as they are to our feelings, and much as we value them, I must say they are not equal to the lasting gratitude, although expressed only in words, which I have received from the humble cottager. The case which I give you is one in point; for, having been the means of restoring to health his single cow—his all—he never ceases to speak of it with gratitude; and yet these are the persons who are most imposed upon by the ignorant pretenders of our art, who, when called upon by them, sympathize not with their misfortunes, their only object being to make a market of them. The well-principled veterinary surgeon rejoices in the success of his treatment of any case as much as does the owner of the patient. The happier days of education and knowledge which are now dawning upon us will render these mutual gratulations more frequent and sincere.

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## ON PUERPERAL FEVER, OR PARALYSIS OF THE HIND EXTREMITIES.

*By Mr. J. W. ROGERSON, V.S., Bedford.*

I AM most happy to be enabled to subjoin the following cases of puerperal fever, or, as I am induced to term them, paralysis of the hind extremities, my reasons for which I will endeavour to shew by a few remarks after I have related them, but, firstly,

allow me to congratulate our profession upon the improvement that is, I hope, fast establishing itself at our College at St. Pancras; I mean the introduction of instruction on the diseases of the ruminant, which for a long series of years has been entirely lost sight of; and I think but for your great exertions, conjoined with those of several zealous and talented practitioners in various parts of the country, it must have died a natural death.

CASE I.—*June 4th, 1839*, I was requested to attend a cow that had dropped after calving, the property of a cottager: she was of the Welsh breed. On my arrival, I found her in a very precarious state. There was a considerable degree of fever; the nose dry and parched; the eyes sunk in their orbits; repeatedly moaning; greatly distended with gas; the extremities cold, the udder also hard and much inflamed, with only a small quantity of milk, and that of a watery description. She had refused all food, and nothing had passed in the shape of fæces.

The owner informed me that she had calved on the 1st of May, and dropped about an hour afterwards; that he had sent for the village farrier, who had given her some caudle with something, as he said, of a nourishing nature; this they had continued twice a-day until June 4th, when I was requested to attend.

I found her as above described. I looked upon the case as hopeless, but immediately commenced operations, first by administering aloes Barb. in sol. ℥ij, with ol. lini ℥j, and 2 quarts of warm water after it: I threw up injections of warm water, and removed a great quantity of hardened fæces of the most offensive nature I ever met with, and the colour of coal tar. Having succeeded so far, I proceeded to insert a seton on each side of the lumbar region, of the length of six inches, which I stimulated with the following liniment, ol. oliv. ℥ij, ammon. fort. ℥ij, the whole of which I rubbed into the setons and back.

This caused a considerable irritation, and was productive of the greatest effect; for, to my astonishment, in a few minutes she rose voluntarily, but in a dreadfully weak state, and voided more fæces. She again lay down, but appeared much easier. I stayed with her some time, giving her repeatedly small quantities of gruel, after which she rose again, and walked round the hovel. I left her the same drench as before to be given at night, and ordered her back to be frequently stimulated, and also milked every two hours.

5th, A.M.—Much better; had suckled her calf during the morning; bowels freely opened, and had eaten a little mash in the course of the night, also a little grass: she had likewise walked about the hovel during the night. R digitalis p. ʒi, nitrat. æther. ℥ss, tinc. opii ℥ss, aquæ ℥j. Dress setons.

6th.—Doing well; rather inclined to be constipated; appetite, however, returning; also much stronger. She milks freely. R Mag. sulph.  $\mathfrak{z}$ iv, sulph. sub.  $\mathfrak{z}$ iv, pot. nit.  $\mathfrak{z}$ j: divide into two parts, one to be given immediately, the other on the 7th.

8th.—Quite recovered, except a little weakness. Ordered the setons to be kept in for a week.

CASE II,—Was a cow, in good condition, and of the finest York breed, belonging to a gentleman. I had seen her about ten days previous to her calving, and abstracted four quarts of blood. On September 1st she calved without the least difficulty, and was turned out into the close for an hour in the afternoon, in an apparently perfectly healthy state; but, on the foreman's arrival a short time afterwards, he found her down, and unable to rise. I was immediately sent for, and, on my arrival, I found her totally paralyzed in the hind extremities, and the abdomen much distended with gas: she had voided no fæces. I ordered venesection four quarts, and injections which produced a copious discharge of fæces. I inserted setons as in the former case, and dressed them with the same liniment. I left her down, covered with straw, and under a tent, ordering her to be milked frequently.

Sept. 2d, A.M.—Still down, and the bowels rather inclined to be costive. I repeated the dose, stimulated the setons, threw up injections, and milked frequently.

3d, A.M.—She had risen during the night, and eaten a little mash and hay, and walked into a hovel. The calf sucked freely. Doing well, but weak.

4th.—Much better and stronger, eats freely, and milks freely. Ordered the setons to be kept in. I called a few days afterwards, and found her perfectly recovered.

All the cases that have come under my observation and treatment have been cows with long backs, wide hips, and carrying a great deal of carcass, and nineteen out of twenty of them expelled the fœtus without the least assistance; thus proving to me that the womb has nothing to do with the malady. What, then, is it? and what is its cause? I believe it to be simply this:—The progress of gestation is very gradual, consequently producing no apparent effect upon the spine; for as the fœtus enlarges and the womb elongates and expands, so does the spine adapt itself to its burden. But the expulsion of the fœtus is so sudden, that the spine returns to its original situation and state too rapidly, after having rid itself of its weight. The spinal marrow in some measure becomes injured, and, perhaps, sufficiently to produce paralysis. I have attended many cows in difficult parturition, but not one of them was afterwards attacked with this disease. The practice which I have here stated somewhat at length I always pursue;

and I am happy to state that I never knew what it was to lose a case. I could wish that some of our professional brethren would make a trial of it.

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### ON RED-WATER IN CATTLE.

*By Mr. J. D. HARRISON, V.S., Ormskirk.*

SEVEN years have now nearly elapsed since I first endeavoured to draw the attention of the profession to the disease in cattle universally called Red-water. At that time I expressed my conviction that the digestive apparatus, and not the kidneys, were the original, and, in fact, the only seat of the disease, and that the red colour, &c. of the urine was owing to its containing bile in a greater or less quantity, and did not depend upon hemorrhage from the kidneys or any other organ for its red or black hue. This fact may be easily demonstrated by chemical analysis, or the more easily accomplished one of test, viz. the adding of some very dilute sulphuric acid to the urine, when, if bile is present, a green colour will be the result; and a red, brown, or black (depending on the proportion of the strength and abundance of the acid employed) if blood is the colouring material. This conviction eighteen years' close observation and extensive practice have confirmed; and in the following essay it is my intention to recapitulate the leading facts and symptoms upon which I have built my structure and based my opinions, in order that the profession may, by their calm discussion and consideration, prove or disprove their tenability. I would hope to elicit the opinions of some practitioners of even longer standing than myself, and so be an humble means to an important end, by directing the future researches of veterinarians who may possess more extensive means of following up and persevering in the inquiry.

In the only standard work on "Cattle" of which we are in possession, and the talented author of which I am proud to number amongst my friends, there are described two distinct and separate affections—chronic and acute red-water—as diseases to which cattle are liable. That such is the fact, I do not feel at all inclined to dispute or deny; yet, as they are two diseases which are produced from opposite causes—as they are essentially different in their symptoms, and require a difference of treatment, and are entirely referrible to different organs, this is a distinction which, I think, in the present enlightened state of veterinary science, is inadmissible. I apprehend my friend, the author of "Cattle," will fully coincide, the more especially as he himself acknowledges that the first appertains to



diseased or rather disordered digestive organs; and the latter to nephritis, of an active or passive character.

In order to prevent misconception or error as to the malady in question, and the name red-water, to which latter disease alone the name is strictly applicable, it will be to a consideration of the former complaint alone that I shall confine my subject, or that the following essay will apply.

Red-water or bloody urine, and black-water, although commonly described in books on farriery under two heads, and as two different diseases, are, in point of reality, only a modification, or the later stage, of one disease. Red-water, when overlooked or neglected, and in innumerable instances even when remedial measures have been employed, invariably terminates in black-water; or, in other words, this appears to be a later stage of the disease to which red-water must proceed, prior to convalescence or death, as is exemplified in the former case by the urine gradually retrograding from black to red, &c. until it finally assumes its natural hue.

That the digestive organs are the only sources of ailment is clearly demonstrable from diarrhœa being the premonitory symptom, and, in many instances, nature thus effects her own cure. If the disease is observed at this conjuncture of time, the administration of an aperient medicine prevents all untoward symptoms. If this, however, is neglected, constipation ensues—the urine becomes red, and, unless by the administration of purgatives the costiveness is overcome, its colour deepens and changes to black: the conjunctiva also is tinged yellow, as well as the skin, and, finally, the milk itself, if any is secreted, partakes of the discolouration, having acquired a bitter taste.

The fact, also, of the water becoming turned, as it is called, immediately prior to purgation from the effect of cathartics, and not being altered in colour during the stage of diarrhœa, but becoming red or brown immediately upon constipation taking place, speaks volumes; and, although the causes of red-water may and do, upon a slight and cursory inspection, appear numerous, and in many instances mysterious, nay, even inexplicable—as is the well-known fact, that certain farms and pastures, and even particular parts of pastures, are known to produce it—yet, I think, these and all other circumstances which can be adduced may be summarily and satisfactorily disposed of in these few words—*any thing which tends to disorder the digestive organs*. In this are included atmospheric influence, as hot and long-continued dry weather, or fine, warm, and growing weather in spring, supervening on a severe cold and sterile winter; or a variety in food, as a change from low, mossy, marshy lands, where the herbage is rank and unwholesome, to high limestone land, where the produce is short,

sweet, and stimulating; or a change from a poor to a luxuriant pasture, even in the same neighbourhood. The causes of red-water are so general and well known among graziers in the West Riding of Yorkshire that several with whom I am acquainted, taught by experience invariably and too fatally for them, look for, and have, innumerable cases during long droughts, or prior to or immediately after their cessation.

Red-water, being so prevalent in hot and dry weather, may be accounted for by the fact of the liver being employed in removing from the system the superfluous carbon. This has caused it to be considered in some measure subsidiary to the lungs, in which we know the same process takes place, the air which enters them returning loaded with carbonic acid.

Many circumstances tend to strengthen this idea. The heat of the body depends on the formation of carbonic acid: but if the external heat is sufficient, there is less necessity for internal heat; less carbonic acid is formed; more carbon is left to be got rid of by the liver; the bile becomes acrid, and the liver deranged.

The fact of cattle being subject to red-water prior to or immediately after a cessation of dry weather, is not stated on my own authority alone, although my own practice and observation have confirmed it, but also on that of several graziers, whom I know to be accurate observers, and who have stated, that if drought had existed for some length of time without red-water making its appearance amongst their herds, its breaking out was a certain precursor of and soon followed by a change. It is also a well authenticated fact, that the cattle which they are in the annual practice of purchasing in the spring and early part of summer, at the different fairs on the western coast of Lancashire, where the land is of a peaty and marshy nature, are sure to be affected with red-water almost immediately after their arrival at their destination: while, on the other hand, if, at the same time, others are brought from the immediate neighbourhood, or from land similar to their own, and which have been bred or reared there, these cattle are, generally speaking, rarely affected by the change. I have known instances without number in which cattle that have been bred or long kept upon the mosses, of which there is no lack in this county, becoming affected with this disease soon after their removal to a more elevated situation, although the distance has been inconsiderable—in many instances not exceeding half a dozen miles, and in some where the distance has been still less; whilst the instances of cattle being affected on a removal from those situations to the mosses are very rare indeed. I would not, however, infer from this, that the cattle which are kept upon, or have been bred or reared upon, or who from length of time have become, in a man-

ner, naturalized to these mossy districts, are exempt from the disease; on the contrary, they are, like those located in other neighbourhoods, equally subjected to its ravages, and from a similarity of causes.

The symptoms being so well known, and the disease manifesting itself in the same manner in every district, I shall not occupy your time longer by describing them, but proceed to the treatment I have found most effectual. If constipation has ensued previous to my being called in, and there is any excitement, I bleed according to the age, strength, &c., and confine my patient to an open shed or cool cow-house, strictly debarring all food of a solid nature, but allowing plenty of whey porridge, oatmeal gruel, &c. as diluents. If the animal will not take these things in sufficient quantities, I have them horned into her, and, as a purgative, give the following—not for any supposed specific effect, but as a more certain purgative than salts alone—my motive also in giving the carbonate of ammonia being solely to ensure the action of the physic, which it either does, or I fancy that it does—℞ Magnes. sulph. ℥vi vel viii, sulph. sublim. ℥iv vel vi, pulv. zingib. ℥ss, ammon. carb. ℥i. Mix, and form a powder, to be administered as the case may require. Enemas of warm water or gruel should also be administered. I have seen hydrarg. sub. ℥j given in a pint of yeast produce purgation, when other remedies have failed, and saved life where the case was apparently hopeless. Purgation being fairly established, the practitioner must exercise his own discretion in the farther administration of medicine, although I must confess that I am in favour of mild stimulants, or, as they are generally called, nourishing drinks.

## ON HOOSE IN CATTLE.

*By Mr. T. MAYER, Sen., Newcastle-under-Line.*

I OBSERVE that a most egregious blunder has been made in the heading of my paper contained in your Journal for the last month, and I shall feel obliged by you correcting it in your next number. Instead of treating on Hoove in Cattle, it should have been on *Hoose*, the former being a totally different affection\*.

The Editor has kindly called my attention, in a note of his to the above paper, that Camper fully meant what he said when he stated, first, “I traced them down the windpipe, and found my-

\* We regret the typographical error, and deserve the castigation which Mr. Mayer has given us; but our friend will recollect the circumstances under which that number was published, and try to forgive us.—Y.]

riads of them in the proper substance of the lungs :” secondly, “ In all that died from the disease, the cellular membrane of the lungs was filled with the worms, while the air-cells were free.”

In the post-mortem examinations which I have made, this is not the case, for *I did not find them in the substance or cellular membrane of the lungs, but simply in the bronchial tubes and air-cells* : it was these facts that called for the observation I made upon Camper’s statement ; but I might have been more explicit.

I do consider the bronchial tubes as their proper nidus on their being first developed ; but when they have propagated themselves to the amazing extent they do, they are compelled to find room where they can. It is at this period that the air-cells become occupied by them, when they soon terminate the sufferings of the animal upon which they are preying, by suffocating it. Camper’s observations will require to be verified or further contradicted by an extensive series of morbid examinations accurately conducted, as we do know there is a possibility of worms eating their way through even the intestinal coats into the cavity of the abdomen, and thereby occasioning acute inflammation and death\*.

Even these humble creatures, placed by Providence in the lowest scale of organic life, beautifully illustrate the wonderful adaptation of unerring instinct to pursue those measures which will secure the life and support of the animal. We here find them developing themselves, and domiciling in one of the most untoward situations to our ideas, whether viewed relatively to themselves or the animal they prey upon ; for when even a minute foreign body gets into the bronchi, unless coughed up, it is followed by intense distress, inflammation, and death. Yet these little animals riot by millions with impunity upon the surface of one of the most delicate membranes ; just keeping up that irritation which does not directly destroy, but is the means of furnishing all their animal wants by the immense secretion excited ; and, at length, their career is only terminated by the exhaustion and suffocation of their victim. Well may we exclaim, How fearfully and wonderfully every thing is made, and how adapted to its end !

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\* Our experience,—not so extensive as that of Mr. Mayer,—reaching, perhaps, not to more than a score cases, fully confirms his statement. We have found these worms “in the bronchial tubes and air-cells,” but never in the substance or cellular membrane of the lungs. This of Camper’s is only one of the numerous and singular errors of great men. We can suppose that a few of these parasites, when they were more than usually numerous, might have penetrated into the substance of the lungs, but the air-cells would still have been filled with them. This generally accurate observer must, for once, have been writing from erroneous recollection.—Y.

## ON THE USE OF THE PROBANG.

*By J. TOMBS, Esq. V.S., Pershore.*

THE probang should always be used with extreme caution. I have known several instances in which it has been roughly and fatally resorted to, and many more in which it has been expertly and successfully applied. I will relate a case or two, first, in which it has been unsuccessfully employed.

*Nov. 1836.*—A cow got a turnip in her throat. Her owner introduced the probang several times, but could not force the obstructing body down. I was then called in; and on my introducing the probang into the œsophagus, I discovered a foreign body in the thoracic portion of it. I made several somewhat forcible efforts, but could not remove it, and I began to despair; when the owner, in a great rage, took hold of the instrument, and forced it down the animal's throat with much violence. I again introduced it, to ascertain whether the substance was removed, and I thought that I could still find it in the œsophagus; but the instrument went farther.

The poor beast was in great agony for two or three hours, when the left side began to swell. I was then convinced that the owner of the cow had done irreparable mischief when he forced the probang with such unwarrantable violence. The animal was now slaughtered.

On examination after death we found a piece of turnip still in the œsophagus. The probang was thrust through the œsophagus, and actually went between the shoulder and the thorax, and lacerated the muscles as far as the false ribs, which accounted for the swelling prior to her being slaughtered.

The other fatal case was that of a cow belonging to a person of this town. In the spring of last year she got a turnip in her throat, which was forced into the stomach with a walking-stick. Two days afterwards another was arrested in its passage down her throat. Her owner borrowed my probang, and a skilful herdsman used it; but the cow did not get better. I was sent for, and found the patient in very great pain, and her rumen distended with gas. I was rather reluctant to use the instrument, thinking the previous operators had done serious injury to the œsophagus; however, at the urgent request of the owner, I very gently passed the probang down the cow's throat, and it apparently went into the rumen with the greatest facility. She, however, became rapidly worse—the rumen was exceedingly distended with flatus—she looked back at her flank, and kicked at the abdomen with her hind legs, and was

suffering intense pain. I introduced the trocar and canula into the rumen, leaving the canula in the perforation, and an astonishing quantity of gas escaped, and the left side of the carcass became flaccid: but this afforded only temporary relief. The pain increased tenfold, and she lay down and groaned most piteously. I advised the owner to have her slaughtered, but he refused, she being a pet cow, and had dropped her calf but a day or two before. Death, however, soon closed the scene.

*Post-mortem appearances.*—An extensive laceration of the œsophagus in its thoracic portion. The thorax and the œsophagus at this part were in a state of putrescence: no doubt this mischief was done with the walking-stick, when the first turnip got into her throat, two days prior to death—inflammation and mortification supervening. Another turnip lodging at the same portion of the œsophagus, which had lost its contractile power, the probang was easily forced through. The turnip and some hay, and water, were found in the thorax.

It being much more difficult to introduce the probang into the stomach of the horse than the cow, I will relate a case or two in which it was successfully introduced into a horse's stomach. I accompanied my brother in the year 1827 to see a thorough-bred colt of Mr. Hervey's, of Bradwell Grove, Oxfordshire. We found him cringing, holding his head out, and pawing the ground, evidently in great pain.

Satisfied, from the symptoms he manifested, that there was an extraneous body in the œsophagus, we accordingly introduced the probang, and found the obstruction in the thorax. It required great force to remove it. On the withdrawal of the probang, there was blood on it. We suspected a lesion of the cuticular coat, and gave gruel to soothe it, leaving strict orders that the animal should have no other food, and no water.

On the next day he refused his food, and his pulse was quickened. I bled him, and had gruel given to him, and oily laxatives, in order to get rid of the foreign substance in the bowels.

On the following day there was great soreness of the œsophagus. We continued the laxatives and gruel, inserted a seton in the breast, and blistered the lower part of the neck.

On the fourth day after the application of the probang, the colt voided a piece of horn with his fæces, that proved to be the toe of his hoof, which the blacksmith had sawn off, on the day that we were called on to attend him. No person about him had any idea that this had occurred until the day he voided it. In a fortnight afterwards he was quite recovered.

Cart horses, from long abstinence from food, eat voraciously afterwards, and often get pellets of hay lodged in the œsophagus.



These are generally removed by giving two or three hornful of oil previous to introducing the probang: but not so when they get an accumulation of chaff in the gullet; for it often happens that the whole length of the œsophagus is crammed with chaff; and when it is, with great difficulty, forced down with the probang, the rough particles of the chaff have done such irremediable mischief, that ulceration has taken place, and gangrene follows, and, eventually, death.

My younger brother was called to a case last year, where the horse had broken loose, and eaten an enormous quantity of turnip seed. The whole length of the œsophagus was distended with it: it was jammed in so hard that neither oil nor the probang could make any impression upon it. He had recourse to the operation of œsophagotomy, and removed part of the mass externally, forcing the residue down the œsophagus into the stomach. The horse was bled, and had laxatives and slop-food: the œsophagus, however, mortified, and the animal died a week after the operation.

## PNEUMONIA IN A BULL.

*By Mr. J. TINDALL, Goldspie.*

THE subject of the following case is a Teeswater bull, the property of Robert Innes, Esq. of Thrumster, and that gained the first prize of twenty-five sovereigns, at the Highland Society of Scotland's show of live stock, at Inverness, in October last. He was conveyed to Inverness by sea in an open boat, and after the exhibition travelled home to the farm of Crackay, Sutherlandshire, a distance of seventy miles, which he accomplished in nine days.

On October 23d he was taken ill, about six o'clock A.M. and my attendance was requested. Being distant from this place ten miles, I did not see him until four P.M., when I found him labouring under the following symptoms:—Pulse 80, and very much oppressed; respiration rapid and painful; quick motion of the flanks, and frequent looking towards them; cough short and quick; horns and ears cold; legs alternately hot and cold; quite unwilling to move, and taking no notice of any thing around him. During the day he lay down twice, but got up almost immediately: indeed, the combined symptoms plainly indicated that the substance of the lungs was the seat of the disease.

I immediately set about bleeding him, but found both sides of his neck lacerated in attempts that had previously been made to effect this; but, owing to the thickness of the cuticle, and accumulation of fat on the neck, a few ounces were all that could be ab-

stracted, although the lancet had been frequently plunged to the depth of two inches. I found that, in consequence of all this, the ordinary means used in bleeding would not succeed; I therefore had recourse to a scalpel. I dissected down upon the jugular vein, and then opened it with a broad-shouldered lancet, and about 8℥s. of blood came freely away. When it ceased to run, several stitches were put through the lips of the wound, and sulph. mag. 1½℥, and pulv. zingib. ʒiij, in six pints of thin gruel, were given to him: enemata were administered, and strong and extensive blisters applied to his sides, which soon acted well. I also inserted three setons, smeared with blistering ointment, deep in the dewlap, which set up extensive inflammation. Plenty of gruel was ordered to be horned down every four hours, and pulv. digit. ʒiss, ant. tart. ʒiss, pot. nit. ʒiv, to be given every eight hours. His box was well aired, and two men were ordered to sit up with him. During the night he ate a little hay, and drank a pailful of gruel.

24<sup>th</sup>, 8 o'clock, A.M.—The physic was operating—the pulse 64, and the breathing more tranquil. I administered sulph. mag. ʒxij, zingib. ʒij, in gruel, allowing him plenty of white water, and bran mash with a little hay, which he took more freely than yesterday.

25<sup>th</sup>.—Greatly improved—pulse 48—rumination returned—he lies down frequently. Continue the digitalis, antimony, and nitre, two days longer.

I now left him, and on the 27<sup>th</sup> received a message, stating that he was doing well, but that his urine was constantly dropping from him. Considering this to arise from irritation of the bladder, caused by the blister ointment smeared on the setons, I had them immediately withdrawn; I also discontinued the fever medicine. In less than forty-eight hours every untoward symptom disappeared, and in a few weeks this beautiful animal regained his former condition.

The principal breed of cattle in Sutherlandshire is the Argyleshire Highlanders: some Ayrshire cattle have been introduced at Dunrobin Castle, and promise well. The Galloway and Short-horned breeds are also reared in the county with considerable success. The diseases most prevalent are puerperal fever, diarrhœa, red-water, inflammatory fever, and tumours situated about the head, neck, and throat, and various other parts of the body. The young stock are most subject to tumours, and are chiefly to be found in cold and exposed districts. Those in good condition soonest fall a prey to this destructive disease. The tumours form rapidly, and, if not checked, they will grow to an enormous size, and ultimately destroy the animal. The spring and summer months produce the greatest number of these cases.

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## ADVICE TO VETERINARY STUDENTS

*By JOHN ROBERTS, Esq., V.S., South Molton.*

Gentlemen,—I FEEL some diffidence in approaching the columns of this highly useful publication, because I read it to learn. I am fearful any communication of mine would be little valued by the scientific readers of *THE VETERINARIAN*, and therefore, in order to ease my conscience for my long silence, I beg to offer a few words of “Advice to Veterinary Students,” to whom I trust they will not be altogether unacceptable or unprofitable.

I will commence by stating, that in the year 1812 I was apprenticed for five years to the late Mr. White, of Exeter, too well known in the veterinary and sporting world to need any further remark upon his qualifications to instruct, as instructions were then given: but the former times are passing away. After that I went to London, and graduated; and subsequently settled in the north of Devon, and am proud to say I remain, respected and happy. I am still in practice, and have been patronized by very many highly influential persons. I was veterinary surgeon to the North Devon Regiment of Yeomanry Cavalry sixteen years, from which I retired five years ago. I mention these particulars to produce (which I hope it will) a deeper and more lasting impression upon the minds of my young friends qualifying for the veterinary art.

I, from never having studied anatomy, physiology, pathology, or pharmacy, as connected with the diseases of any other domesticated animal but the horse (which has always been my hobby), never received one shilling for my attendance upon them when required. Some one may ask me, Why not attend cattle? My answer always has been, and ever must be, I never studied their diseases, and consequently feel disqualified to undertake the medical care of them.

Judge, ye young vets., how many hundreds of pounds I must have been minus by this omission in my early veterinary education, and give the subject the consideration which it so highly merits. You will then feel the necessity—the absolute necessity—of making yourselves acquainted with the duties of a veterinary surgeon in all its varied branches. It may seem hard to prevent your enjoyment of some hours you would otherwise devote to social amusement; but your ultimate reward will adequately compensate.

A gentleman, not four miles from my residence, sold a few months since a young bull not two years old for 100 guineas. Surely such an animal would be as likely to require veterinary

aid as one of lesser value! I attend that gentleman's horses, but could have rendered him no assistance if his bull had been ill before sale.

My advice will now be briefly stated to those who are hereafter to become useful members of the veterinary profession:—Learn, by studious, industrious, and unrelaxing attention, to bring yourselves acquainted with the diseases incident to all classes of domestic animals, and you will be amply rewarded.

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[A portion of Mr. Bottle's Essay on Bone, and also of the debate on that Essay, are given in the Association part of this number, embracing the consideration of the diseases of the extremities, and of the joints. We now collect, from the communications with which we have been honoured since the last month, the papers which are connected with this subject, and they are highly valuable.—Y.]

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## UNSOUNDNESSES NOT NAMED.

*By* PROFESSOR STEWART, *Glasgow.*

I HAVE met, more than once, with several causes of lameness which have never, so far as I know, been described. They are not mentioned in books, and they are so little known in stables, that they have received no name. It is very important to know and to remember them in the examination of horses for unsoundness.

*Sprain of the Extensor Pedis* of the hind leg is not rare: I mean the tendon, not the muscle. It is seated midway between the hock and the fetlock joints on the front of the leg. To the eye it looks like the effect of a blow or injury received in leaping: but on application of the fingers, the skin will be found free and unthickened, shewing that the swelling is not there, but in the tendon. When slight, the horse goes sound after a little exercise, but he is stiff or lame after rest; and much work makes him lamer during the next day. I think it may be produced by knuckling of the pastern. I have found no treatment of any use but firing and blistering, with four or six weeks' rest.

*Sprain of the Peroneal Tendon*, or of the ligament by which it is bound to the head of the metatarsal bone, I have seen several times. The horse is lame, most frequently on both legs. There is some swelling just below the bend of the hock joint, towards the outside, and it is tender. I do not know how it is produced. I

treat it by firing and blistering. But the horse must rest at least two months. If put sooner to work, the lameness returns.

*Sprain of the Tendo-Achillis.*—In all the cases that I have seen of this injury, it has been produced suddenly and by hard work. The tendons have been thickened and tender from the os calcis up to the muscles of the thigh; most usually both are affected, but I have seen the injury in one only. So far as I have seen the horse is always lame. But Mr. Binning Horne, near Jowne, tells me, in a letter, of two cases in which there seemed to be no constant lameness. Speaking of one, he says, "When I purchased the horse, the tendons above the hock seemed very large, which I foolishly imagined to betoken great strength. In ordinary road-work no weakness could be challenged. In leaping high he never cleared his hind legs, but that I attributed to awkwardness; and it was not till I hunted him that the lameness fully shewed itself. Considerable inflammation and great enlargement of the tendon ensued, causing total lameness in both hind legs. I had him blistered, and, when ready, he was sent to grass till he got sound, and had no more enlargement than when I bought him. He was afterwards exchanged, and the last time I heard of him I was told that he was the prettiest gig-horse in Liverpool, and going sound."

*Splints in the Hind Leg* are a rather common cause of lameness. They are generally just below the head of the metatarsals, and on the inside. The horse goes wide and lame, as he does with splints in the fore leg. The treatment is the same for both, but the horse often gets sound without any treatment.

I have yet to speak of one or two unnamed lamenesses in the fore-leg, but must wait until a more convenient opportunity.

## DISEASES OF THE HIP-JOINT.

*By Mr. T. W. MAYER, V.S., Newcastle-under-Lyne.*

THERE are no local diseases more formidable in their consequences, whether as regards their ravages upon the parts affected or the consequent and often fatal effects upon the general constitution of the animal, than those of the principal joints of the body.

It is fortunate that we meet so seldom with any extensive diseased action in the hip-joint—a joint which yields to none in its importance to animal progression. So strong, of late years, has been the tide of prejudice against the possibility of any lameness occurring in this joint, that we occasionally overlook it, and attribute the grounds of the mischief as resident in the hock; nor can we wonder at this, when, in the slighter shades of lameness in a hinder extremity, the effect upon progression is so very similar.

The hip-joint is not only subject, like other joints, to strains of its connecting and capsular ligaments, but likewise to synovial inflammation from accidental injuries, &c., consequent ulceration of its cartilaginous surface, and extensive formation of matter, which, ulcerating its way out, may lie a long time imbedded under the mass of muscles surrounding the joint before it makes its way to the surface.

Foals and calves are occasionally subject to scrofulous inflammation of their joints, generally in their hocks or stifles, but also in their hip-joint, more particularly foals, in which, when pus has formed, and ulcerated its way out, it generally wears them down by the great constitutional irritation set up, or else necessitates us to destroy them. In some foals I have seen large formations of matter occur upon the sacro-sciatic ligament without being connected with the hip-joint. If an early incision is made through the glutæi muscles, and free exit given to the contained pus, the patient soon recovers. In others the formation of matter takes place within the joint, ulcerates its way out, and becomes lodged upon the dorsum of the hip-bone and the sacro-sciatic ligament, slowly ulcerating its way through the glutæi muscles; or it may take another direction, and find its way into the rectum.

In full-grown animals we seldom meet with the scrofulous affection. The synovial inflammation in them is set up in consequence of violent strains, or being flung down, particularly in carts and carriages; and unless a very vigorous treatment is adopted early, it either terminates in perpetual lameness from ankylosis, &c., or the formation of matter, consequent ulceration, and, ultimately, loss of life.

A case which came under my notice not long ago was in a cart-horse, which was strongly suspected by the owner to have been flung down in the cart by his servant. I did not see it until some months after the accident occurred. The animal was therefore much emaciated from pain and general irritation: the quarter was a great deal wasted, and, when it was moved along, there was to be perceived every now and then, by the hand and ear, a feeling and a noise as if the head of the femur chucked in and out of the acetabulum.

Upon examination, I gave it as my opinion that either there was dislocation of the hip, or else a fracture of the neck of the thigh-bone, and that the animal had better be destroyed, which was accordingly done. On making a post-mortem examination, I found a most extensive formation of matter in and around the joint, extending itself up to the sacro-sciatic ligament. The ligamentum rotundum was ulcerated away from its attachments, the cartilaginous surface of the acetabulum and head of the femur absorbed,



and the matter had made its way through the capsular ligaments, thus explaining at once the peculiar noise and sensation afforded during progression. It was a very remarkable circumstance that the pus should have lodged so long without ulcerating its way to the surface.

Not along ago we had a colt under our care which had tumbled into a marl-pit: the consequence was, he fractured the tibia transversely below the stifle, and seriously injured the hip-joint. We set the leg, which has done well, and is perfectly straight; but we found we had more serious effects to combat with, as regards the hip: however, we reduced the inflammation, and restored the colt, as far as circumstances would permit, leaving only a slight permanent lameness behind, which does not prevent the animal from making a useful slave for agricultural purposes. When it moves along, the same sensation is given in this case as the other; and I have little doubt that the round ligament was ruptured at the time of the fall.

Cattle are very subject to affections of the hip from scrambling upon one another; and often it is accompanied with fracture of the pelvis, which is easily detected by the crepitus felt by the hand when applied to the part during progression.

*Treatment.*—Whenever we meet with diseased action set up in important joints, very decided measures should be resorted to, otherwise we can never recover our lost ground. In foals or calves, although young, the lancet should not be spared, in accordance with the age and powers of the animal. When possible, the blood should be taken from the vena saphena; the bowels must be unloaded and properly regulated, and a strict antiphlogistic treatment employed. Local fomentations should be applied to the part affected, carrying them round to the inside of the thigh; also setons and cooling applications, taking care that the setons are not placed directly upon the affected part, but where they will act as derivatives. Nothing can excel in these cases the old rowelling system *in the inside of the thigh*.

In older animals, the depletory system must be carried on with an unsparing hand. In other respects the same general treatment is required as in the younger.

After all active inflammation has subsided, employ stimulating applications, blisters, and rubefacients. Mavor's steam apparatus is excellently adapted, in old chronic affections of the joints, to afford great relief, and powerfully tends, by its judicious application, to restore the proper action to the parts affected. It only requires the apparatus to be a little modified in its construction to render it available to any of the leading joints of the body.

This plan should be followed up by blisters and mercurial charges,

the latter embracing a large circle of the hip, particularly where any portion of the pelvis is fractured.

In the early stages of the affection the animals should be kept quiet in a loose box until we commence blistering, when they should be turned out to grass until restored, or made the best of that circumstances will allow.

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## ON THOROUGH-PIN AND ENORMOUS BURSAL ENLARGEMENT OF THE HOCK.

*By Mr. J. W. IONS, V.S., Waterford.*

A LARGE bay hunter, the property of F. Penrose, Esq., and that had just arrived from Mr. White's, of the Hippodrome, in London, was sent to my stables. The moment I saw it I was astonished at the appearance of the parts, for they were as large as a man's hat, and tense and hard as if ready to burst.

I immediately gave a dose of physic, and applied cold evaporating lotions for a few days, until the parts were free from inflammation, and then punctured the part which most pointed to the depth of an inch-and-a-half; but little or no fluid escaped.

After this I commenced rubbing in daily the following ointment, for a quarter of an hour each time.

Hydriodate of Potass.....	3vj
Iodine.....	3iij
Weak Mercurial Ointment.....	3iv
Lard .....	3iv

In one month from the commencement of the rubbing the hock became as fine as the other, and has remained so, although the horse has been repeatedly hunted since, and was daily exercised during the inunction.

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## A CASE OF NASAL GLEET.

*By the same.*

A BEAUTIFUL bay thorough-bred horse, by Byron, six years old, the property of J. H. Jones, Esq., of Mullinabro', had been labouring for three weeks under influenza, and which had given way to the ordinary treatment, leaving a most *offensive* smell from the off nostril, with a muco-purulent discharge of a darkish colour streaked with blood, and of a gluey tenacity, adhering to the nostrils. The maxillary gland of the same side was much enlarged,

and it was almost impossible to enter the stable on account of the stench from his nostril.

I had him immediately removed into a loose box, well ventilated, and ordered the floor to be sprinkled with a solution of chloride of lime three or four times a-day; the nostrils to be kept sponged with vinegar and water; and his diet to consist of bruised oats, bran, and cut raw potatoes. He was all through in splendid condition; but, becoming alarmed at the character of the discharge, and his general *surface* appearance (a staring of the hair about his head and quarters), I was determined to go seriously to work; and accordingly I inserted a seton between the two maxillary bones, using Mr. Simonds's medicated tape, of which I have a high opinion, and I also put to the test the merits of the diniodide of copper, as recommended by that highly talented gentleman, Mr. Morton, of the Veterinary College. I commenced by giving twice a-day the following ball:—

Diniodid. Cupri .....	3j
Gentianæ.....	3iij
Cantharid .....	gr. v
Theriacæ .....	q. s.

The stable was ordered to be fumigated once a-day with chlorine gas, which was liberated by hydrochloric acid and black oxide of manganese, agreeably to Mr. Morton's instructions; and this was repeated daily for three weeks, in conjunction with the diniodide. He was ordered full feeding, viz., four feeds per diem, each feed consisting of four pounds of bruised oats, with cut wheaten straw, and sliced carrots or raw potatoes, in each feed, and damped with cold water. He was kept warmly clothed, and four hours' gentle exercise (two in the morning and two in the afternoon) were ordered every day.

In ten days after the above treatment a most pleasing change took place by the discharge assuming a healthy character and being perfectly free from offensiveness. The enlarged gland disappeared, and a fine silky appearance of the coat presented itself, while the horse was in as high spirits as could be wished. In three weeks he was perfectly recovered, and has since been repeatedly hunted, to the great satisfaction of the owner, who personally returned me thanks for his favourite's recovery.

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## A SUCCESSFUL CASE OF LARYNGITIS.

*By the same.*

MY patient in this case was a fine old hunter (13 years), the property of William Ridgway, Esq., of Blenheim. It had been ill six weeks from catarrh, for which it had been bled—most impro-

perly, I conceive, in all cases where there is a discharge from mucous membranes,—and other means resorted to by the proprietor; but the animal daily getting worse, he was sent to my establishment, for me to do what I thought proper with him, and return him.

There being great enlargement of the parotid glands, difficulty in swallowing, and a loud laryngeal sound in respiration, I passed two broad and long setons, one over each enlargement, and gave an ointment composed of

Hyd. Potass .....	3vij
Iodine.....	3iij
Lard.....	3viij

a portion of which was ordered to be rubbed in twice a-day, ten minutes each time. His diet was confined to slop-mashes, and he was ordered to be kept in a loose box well ventilated, and his throat gargled thrice a-day with vinegar, water, and honey.

On Saturday last the proprietor called on me to say that he was so much worse that he was determined to shoot him. He could eat nothing for some days, and the noise he made could be heard the length of a large field into which he had turned him to die. I begged of him not to shoot him, but would send my servant for him the next morning, if he would let me have him for experiment; to which he cheerfully agreed.

My man was four hours bringing him three miles, and, when he arrived, he fell in the box from exhaustion.

I found that no time was to be lost, and directly performed the operation of tracheotomy, from which he obtained immediate relief. I then inserted a tube, as recommended by my fellow-collegian Mr. Percivall; and being determined to put the merit of the hyd. potass. to the test, I commenced by giving thirty grains of this most useful drug in half-a-pint of thick mucilage of linseed twice a-day. The following ointment was also ordered to be rubbed into the glands morning and evening for a quarter of an hour each time:—

Hydriodate Potass.....	3vij
Iodine.....	3iij
Lard.....	3viij

His diet consisted of slop-mashes of ground barley and bran, and a little cut soil. His box was well ventilated.

*April 8th.*—A profuse discharge from the nostrils, mouth, and tube. He feeds well; lies down; is cheerful; the fæces are pul-taceous and healthy, and there is every appearance of a speedy recovery.

The enlargements on both glands are nearly reduced to their ordinary size; and there is not the slightest oppression or noise from his nostrils.

[The two last cases have prepared the way for our friend Pritchard.]

## DISEASES OF THE AIR-PASSAGES OF HORSES.

*By Mr. R. PRITCHARD, V.S., Wolverhampton.*

BRONCHITIS is occasionally attended, early in the attack, or from its commencement, by a very remarkable prostration of strength. There is an *asthenic* form of the disease occurring in horses, in which the powers of the constitution are greatly diminished, either from a long period of stable treatment, unwholesome food, unequal exertion, or other causes, which relax the animal fibres and weaken the vital energy. It is not so phlogistic in character as either of the forms previously described, and its approach is, frequently, very insidious; the breathing is slower and deeper, or but little disturbed, and the cough is not frequent, but should any circumstance suddenly excite it, quite a paroxysm takes place, in which the soreness of the anterior part of the chest, and efforts of the animal to desist coughing, are very striking.

The pulse is increased in frequency but diminished in force; the conjunctiva and pituitary membranes are injected; the eye dull; the appetite wholly or nearly lost; the urine scanty, and the fæces generally dark, dry, and firm. Auscultation gives, early in the disease, a dry sonorous murmur in the large bronchi, which is soon followed by wheezing, and the mucous râle succeeds. The secretion of mucus, which at first is scanty, becomes copious and abundant, with a frequent expectoration into the fauces, which the horse commonly swallows, but, as the soreness of the chest declines, he ejects it by sneezing, or rather snorting, from the nostrils. The mucus discharged at the nose is at first of a viscid, firm, consistence, and of a deep yellow colour; but as the expectoration advances it becomes whiter and more purulent in character, attended by a marked mitigation of the symptoms, and its quantity gradually diminishing as the animal progresses to convalescence.

In unfavourable cases, the vital powers seriously decline; the breathing becomes more difficult; the pulse weak, wiry, irregular, frequent, obscure, and indistinct in the arteries; the accumulation of muco-purulent fluid within the bronchi and trachea suffocative; violent fits of coughing, followed by little or no relief; the mouth is furred, fœtid, and offensive; the horse reels and staggers as he moves in his box; the countenance grows haggard and distressed; the eyes glassy, and pupils dilated; patches of clammy sweat break out in various parts of the body; the limbs are deathly cold; a convulsive tremor agitates one or other of the muscles of the

shoulders, flanks, or thighs; and, at length, in the dreadful collapse, he either plunges headlong, and dies convulsed, or drops exhausted upon his bedding and life escapes without a struggle.

*Terminations.*—The true or *sthenic* form of bronchitis commonly runs its course in a week or ten days, but is sometimes prolonged to three weeks or a month. This is dependent upon the treatment employed, the age and habit of the animal, and the complications by which the case is attended. The *asthenic* variety of the disease progresses more slowly, rarely terminating earlier than a fortnight, and commonly extending to a period of several weeks.

In the cases proceeding auspiciously of the *sthenic* form, the symptoms decline from the third or fourth to the tenth day. The favourable change is evinced by the improvement of the cough and mitigation of the dyspnœa and febrile disturbance of the system; by a more general development of warmth to the surface and extremities; by a greater evacuation of paler urine; and by a diminution of the expectoration and discharge from the nostril, and of the severity and frequency of the cough. However, this propitious alteration does not always take place, more especially if the attack is severe, or the treatment employed inefficient, or too late to remove the disease; or there is a profuse secretion into the bronchi and difficult expectoration. In these cases inflammation may extend to the air-cells and substance of the lungs, and produce pneumonitis, to which may even be superadded pleuritis; and from the consequent irritation set up by the great extent of surface implicated, the profusion of viscid secretion into the bronchi, and interruption to the functions of the lungs, collapse of the vital powers may unexpectedly come on, and the animal die either from affection of the brain, or accumulation of fluid within the air-tubes, and inability to discharge it.

When pneumonia takes place as a termination of the disease, the discharge from the bronchi through the nostrils is often of a greenish colour, and sometimes of a dark-brown rusty appearance, from blood more or less intimately mixed with it, and of a fœtid smell. The cough is deeper, and the oppression more severe: symptoms of a more dangerous character indicating pneumonia of the worst kind supervene, and other unfavourable signs speedily ending in the extinction of life.

Chronic pleuritis, and effusion into the chest, and also occasionally into the pericardium, are terminations of both the *sthenic* and *asthenic* forms of bronchitis. The expectoration, with many of the other symptoms, may rapidly decline, while the difficult respiration, with the indications of effusion, grow more manifest as the signs of bronchitis pass away. The effusion takes place in consequence of the morbid action being translated from the mucous to the serous membrane.



In some instances pleuritis or pneumonitis appears to intervene between the bronchitic disease and the effusion into the pleural cavity or pericardium. The indications of inflammation extending through the subdivisions of the bronchi to the substance of the lungs and to the pleura are apparent by auscultation, and by the movements of the thorax; and, when so occurring, are generally in aged horses, that is to say, horses eight years old and past.

Unfavourable cases of the disease occur in which the energies of life fail quickly. In these the oppression quickly increases; the sputa is abundant, and discharged with considerable difficulty; the cough is exceedingly painful, frequent, and convulsive; the countenance is dejected; the pulse increases in number and weakness, and is sometimes irregular or intermittent; patches of sweat break out about the face, eyelids, neck, or shoulders; the breathing is quick, difficult, wheezing, or rattling; there is great and rapid prostration of strength, and, unless cerebral affection terminates the case, the animal sinks, with all the symptoms of imperfectly changed blood.

Bronchitis is, in some very acute cases, attended by much irritation and severe local signs, and in which the breathing is very short, quick, laborious, and roaring. Collapse then takes place very rapidly, more especially in instances of inappropriate or deferred treatment, and in those in which the respiratory mucous surface is almost entirely invaded by inflammatory action, and the secretion so abundant as to render the excretion of it exceedingly difficult: then the animal is carried off by suffocation, while there are evident signs of the circulation of venous blood.

On dissection, the bronchi are loaded with a muco-purulent liquid, and the vessels of the lungs distended with dark-coloured blood.

*Complications.*—The states of complication most frequently observed in bronchitis in the horse, are catarrhal sore throat, catarrhal inflammation of the pharynx, larynx, or trachea, to all of which it is frequently consecutive. It may also antecede inflammation of those several parts; it may be simultaneous with pneumony, pleurisy, or pericarditis, or in some cases antecedent to either of these affections.

In disease of the liver, and bile accumulated in the biliary canals, or disorder of the muco-digestive surface, or subacute inflammation of this membrane and diarrhœa; the association of bronchitis seriously increases the danger of these maladies, and, by the unfavourable form the bronchial disease assumes, their termination is very often fatal.

Bronchitis presents a more acute form when complicated with other diseases, and is accompanied by a greater disposition to ex-

tend through the subdivisions of the bronchi and the air-cells; or, by an abundant secretion of mucus and a rapid decline of the vital energies, the above described fatal terminations unexpectedly take place. In complication with pneumonitis or pleuritis it may escape observation, until it assumes the most important, dangerous, or really fatal lesion.

*Subacute Bronchitis* presents the same signs as the sthenic form of the affection, differing only in degree, being milder, and of a more chronic character: the sputa is depectible, gelatinous, or albuminous; the cough remains dry longer than in the acute form, and the breathing, which is oppressed, is less urgent and distressing. In this variety of the disease, plastic exudation and albuminous concretions sometimes are formed in the lower part of the trachea and large bronchi, and shaped to the form of the tubes, or in membranous bands.

*Chronic Bronchitis*.—The severe forms of catarrh frequently terminate in chronic inflammation of the bronchial membrane, as does the acute form of the disease; but the chronic state sometimes takes place as a primary affection. There is no particular difference in this form from the acute or subacute, except in the milder character of its symptoms and their longer duration—the line of demarcation between the active and chronic grades being indistinct.

The principal means by which we are to be guided in ascertaining that the disease has taken on the chronic form, as consecutive to the acute, is the nasal discharge—or, as I prefer the term, expectoration of sputa—continuing undiminished in quantity for some time, and its change from the viscid tenacious quality in the acute state to a yellowish-white or yellowish-green character, and more purulent and less glutinous nature. The chronic form of bronchitis presents various appearances and various grades of intensity, depending upon the changes that have taken place in the bronchial membrane. In its milder and primary form, as it occurs in winter, the spring, and changeable seasons, it consists principally of an habitual cough, recurring in an aggravated degree at one or other of the above-stated periods, accompanied by an expectoration of a greyish-blue coloured mucosity, which is discharged from the nostrils after each paroxysm of coughing, or when the head is in a pendent position, or while drinking. This increased discharge may continue for several weeks, or even months, unattended by little or any febrile disturbance.

Consecutive of catarrh or acute bronchitis, the cough is severe and the expectoration copious, with increased pulse and other febrile symptoms, loss of condition and strength, with derangement of the digestive organs and difficult respiration, particularly on the exertion of the animal. Bronchitis in its chronic form is sometimes

complicated with diseases of the lungs and pleura, accompanied by tubercles; more especially with hepatic disease, and with chronic inflammation of the mucous surface of the stomach and intestines—the large bowels particularly. No invariable or certain form of the disease is presented in any of the consecutive and complicated states, its duration, progression, and termination, being its principal characters, which are modified by the strength of the constitution and the severity of the attack.

*Characters of Bronchitis on Dissection.*—When the respiratory passages are examined of a horse that has died from any cause, and at the same time has been suffering from bronchitis in a recent and slight degree, a blush or trifling redness of some part of the mucous surface will be discovered, and this usually at the lower end of the windpipe and the first portions of the bronchi: but when the inflammatory action has been severe, the redness is found in a greater number of the tubes, and also in the subdivisions of them. Sometimes the redness is limited to the tubes of one lobe alone. The inflammatory blush occasionally appears as a fine injection of the mucous membrane, and seems to extend to the sub-cellular structure, and generally presents a moderate degree of tumefaction. In some cases the bloodvessels are not visible, but a considerable number of points or spots of a red colour, congregated and encircling each other, are observed. Occasionally a general inflammatory action is presented. The redness of the mucous surface declines as it proceeds from the large to the smaller tubes in some instances; and in others this disposition of inflammatory colouring is reversed. Sometimes it appears in bands, patches, or circumscribed phlegmasiæ, and the mucous surface between them is white and free. The mucous tunic is of a dark-bluish colour or brownish hue in chronic inflammation. In some cases of the chronic form, and possessing obstinate symptoms and a puriform sputa, on dissection the mucous membrane has exhibited a surface pale and free from redness throughout, which is a very remarkable fact. Perhaps in such cases there may have been inflammatory action; but, in my opinion, copious secretions, and of a purulent character, are sometimes discharged from mucous surfaces, or gain this appearance by retention in the tubes, from a relaxed state of their capillary vessels. Probably there was a large determination of blood in order to keep up the discharge, and on the cessation of this the entire vascularity may have disappeared. Besides these changes, and especially in the chronic form of bronchitis, thickening, dilatation, softening, ulceration, &c. are presented on dissection.

*Diagnosis.*—The chief characters by which we are enabled to distinguish the existence of bronchitis are, in the cough, the sputa, and the physical signs. Inflammation of the mucous surface in the

first stage and in an acute form of the disease, produce swelling and tumefaction of the membrane, and consequently lessen the capacity of the air-tubes, and give rise to a modification or change of character of the respiratory sound in them. Hence auscultation gives, at the commencement, the dry bronchial rhoncus—generally a deep tone, resembling the bowing of some low note of a stringed instrument—and sometimes of a *sibilant* or *whistling* sound, more especially when seated in the large bronchi. These sounds exist in the early stage, previous to expectoration of mucus, and are owing to the state of the membrane and sub-tissue. The difficult respiration at this period is also produced by the same cause.

To the above sounds the mucous râle succeeds, and becomes predominant as the secretion of the bronchi advances. The bubbles of mucus are considerable, and interrupted when the large tubes are affected by inflammation.

When the small bronchi are the seat of inflammation, the mucous rattle is sharper, and may be heard constantly. The mucous secretion becomes thickened and opaque as the disease advances, and the râle more uneven. The respiratory murmur disappears in some portion of the lung, and the sibilous click is substituted. Obstruction, partial or entire, of some of the tubes, from accumulation of viscid mucus, is a cause of this change in the sound. It is but of temporary existence, taking place first in one part of the lung, and retiring, to appear in another. The difficult respiration of this stage of the disease is plainly illustrated by the condition of the bronchial tubes.

In bronchitis the cough is deep, painful, loose, diffused, and occurring in paroxysms, accompanied by febrile disturbance: laryngitis produces a cough shrill or grunting, and suffocating; pneumonia, one deep in the chest, full, hard, and frequent; and in pleurisy it is short, dry, hard, occasionally slight, but always suppressed and painful.

In acute bronchitis the breathing is hurried, difficult, and wheezing; in pneumonia less so, and rarely attended by the bronchial râle.

The expectoration in bronchitis after the third day is generally considerable, and nasal flux even from the commencement in some cases; while in laryngitis, pneumonia, and pleurisy, it is thin, sparing, or altogether wanting. The pain in bronchitis is less acute. The animal never looks back to his sides, as in pneumonia, and more especially in pleurisy.

In pneumonia the pulse is quick, undeveloped, and oppressed; in pleuritis, full, less frequent than in pneumonia, and sometimes wiry; whilst in bronchitis it is 70 or more, small, soft, and moderately developed.

The deathly coldness of the extremities in pneumonia is not continuous in bronchitis; nor the restless anxiety, lying down, sudden rising, and kicking at the belly, as seen frequently in the pleuritic horse. The haggard countenance and apparent dread of suffocation in bronchitis are wanting in pneumonia and pleurisy; and the disinclination to move in pneumonia, with the sighing and twitching of the thoracic muscles in pleuritis, are not signs of bronchitis.

[To be continued.]

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## A CASE OF PNEUMONIC INFLAMMATION IN A MARE.

*By Mr. J. IGOE, V.S., Dublin.*

A THOROUGH-BRED mare, the property of a Mr. M——, was, on 26th March, sent to me to receive treatment. The gentleman gave me to understand that he lent her to a friend of his to ride into the country some few days previously, and she had been indisposed, and unable to do any thing since. He imagined that she received too violent exercise. A farrier in the neighbourhood was sent for, who, without much hesitation, bled her largely, and ordered her sides to be well blistered.

The gentleman thinking this treatment rather bold, as the mare was a delicate yet beautiful creature, would not allow the latter part of it to be put into practice, but sent for me.

On examining the animal, I found her to be labouring under all the symptoms of pneumonic inflammation in a marked degree: pulse from 80 to 85—respiration accelerated, and about 44—the expired air extremely hot—cold, clammy perspiration over the body—extremities cold, &c. On the application of my ear immediately over the right side of the chest, I found a marked alteration in the respiratory murmur from the opposite one, where the sound was perfectly clear. To this sound I must apply the term mucous, as it pervaded a circumscribed portion of the lung, was perfectly audible, and seemed, as I imagined, to depend on the passage of air through the accumulated mucus in the bronchial tubes.

As my patient had been already bled to a large extent, I did not consider it prudent to abstract any more generally, but determined on doing so locally. Accordingly I scarified her right side, and applied the cupping vessels over the diseased part, and, after some time, I was enabled to abstract as much in that way as I thought necessary. I administered a laxative enema every fourth hour, until she was purged; and ordered the extremities to be well rubbed with equal parts of ol. terebinth. and ol. olivar. mixed, and flannel rollers to be afterwards applied.



27th.—No better—pulse the same, small and weak—respiration still hurried and distressing. On the application of my ear over the same side as yesterday, there was a marked discrepancy in the sound that was heard: it was of a crackling character, and approximating very much to the crepitous râle of Laennec. I ordered a ball composed of tart. antim. and kali, and pulv. digitalis, each half a drachm, nitratis kali one drachm, and common mass a sufficient quantity to form it, to be given every four hours—a laxative enema in the evening—together with the application of the liniment to the extremities.

28th.—Some inconsiderable improvement has taken place since yesterday. Pulse reduced to 80—respiration still hurried—crepitous râle still audible. Continue the balls—the right side to be well blistered, and the liniment as yesterday, with flannel rollers.

29th.—Pulse 70, of an intermittent character—respiration more tranquil—appetite much impaired, refuses bran-mashes, &c. Crepitous râle still audible, but less apparent.

30th.—Much improved: pulse 65, and intermittent; the digitalis to be omitted: but the liniment continued to the legs. The respiration is now nearly reduced to its normal condition. The crepitous râle absent, but succeeded by one of a mucous character. Appetite still impaired.

31st.—Much better. Pulse same as yesterday. Respiratory murmur on both sides of the chest perfectly audible, and in its natural condition—appetite returning, as evinced by her picking about the manger—bowels in rather a laxative state—great debility, marked by a tottering walk when disposed to move about the stable. Omit the balls, and repeat the liniment, with flannel rollers.

April 1st.—Improving rapidly. Appetite returning—all the chest symptoms have now disappeared; but still great debility, and the same tremulous motion of the extremities as yesterday.

2d.—Going on as well as I possibly could expect.

From this period my patient progressively improved with the use of tonics and aperients, until she finally recovered the attack, which was violent in a marked degree. This was a matter of no small gratification to myself, dreading the character of a disease at once so formidable and fatal to horses.

Having paid some attention to this as well as other pulmonary affections for some time back, I may venture to make some remarks as to its mode of treatment. After the premonitory symptoms make their appearance, I invariably find one or two good bleedings, in conjunction with the use of digitalis and tartar emetic, to subdue the violence of the disease. They are remedial agents of the utmost value in this as well as other chest affections; but, in extracting blood generally, in this as well as other organic inflammations, we never



should be guided by the quantity drawn. This is a rule of an erroneous nature, and one that should not be practised. It is to the effect produced on the arterial system that we must look for beneficial results to accrue, and not from any specific quantity abstracted.

There is no disease in the horse, that I am acquainted with, of more frequent occurrence than the present; nor do I know of any so often coming under the hands of empirical farriers; and as bleeding is their grand antidote in this as well as other affections, whether they are inflammatory or not, I do not hesitate to say that, by excess in this operation many a valuable animal has fallen a victim under their ruthless hands.

I find the utmost advantage to be derived from the topical use of cupping vessels; and in the administration of tartar emetic I am induced from experience to believe that small doses—say half drachm doses, given at short intervals, perhaps, of three or four hours—to be a much better and more successful practice than larger ones at more remote intervals.

In this case hepatization did not take place at all. This I am inclined to think was owing chiefly to the prompt measures I adopted from the period the animal was sent to me. As she daily improved, in the same ratio I found a marked alteration from the abnormal to the normal condition of the lungs, until resolution had ultimately taken place. The crepitous râle of Laennec was well marked; a matter of no small surprise to me, as in the majority of instances it is not distinctly audible: but here, in proportion as the inflammation subsided, it became less intensely audible, until it finally disappeared. In this instance percussion afforded me no signs for diagnosis.

This case is not sent as an illustration of any new method of treatment—and perhaps there is nothing of particular interest in it—but merely as a contribution to a class of diseases of a very important character, and that have been little known hitherto. I trust, however, that the period is not far remote when we shall be able to diagnose diseases of the chest in the animal body with as much accuracy as the great founder Laennec has been able to do in the human system.

This branch of veterinary science has not been cultivated much. There remains still a vast field for inquiry, and one that I perceive has not been overlooked by some of our brethren, whose fostering care has often advanced the interest and well-being of a science that has made such rapid strides of late years, in order to attain the justly merited position which it at present holds.

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## ON A PECULIAR DISCHARGE OF CALCULOUS MATTER WITH THE URINE, AND ON THE AFFECTIONS CONNECTED WITH SUPPRESSED STRANGLES.

*By Mr. MOGFORD, V.S., Guernsey.*

It is about seven years since I discovered that to be a fact which I had long before suspected; viz. that horses were not only subject to stone in the kidneys and bladder, but at times pass large quantities of calculous matter; and, from the subjoined facts, with others which have come under my notice from time to time, I am led to believe (although I cannot absolutely prove it) that it occurs in horses who have attained their full growth without having had that complaint incidental to them called "strangles." I should have suggested this opinion long ago had I not been diffident of venturing on an untrodden path, and more so, as I should probably broach an opinion contrary to that of many of my professional brethren whom I greatly respect, and to whom also I am much indebted.

However, having read a case of the kind in your Number of the last September, fol. 594, and seen your request to Correspondents to communicate similar cases, I have sent the following history. By the way, however, allow me to call your attention to Mr. Percivall's invaluable work on "Hippo-pathology," in which (p. 296) he describes the symptoms of the horse with a staring coat, &c. &c. but does not specify the cause to which we are to attribute it. I shall be happy if the annexed statements may tend in any degree, however remote, to throw some light upon the subject.

### CASE I.

A horse, the property of Miss Sayer, of this island, was attacked with a peculiar stiffness in all his limbs—standing with his legs close together in a constrained position, as if they were fixed by some mechanical power independent of the animal himself. There was no inclination to move. One leg was hot, and another cold—one ear hot, and the other cold; and *the* peculiar staring coat. I thought it might be rheumatism, and gave different remedies with little or no effect; but upon observing on the floor of his stall a sediment from his urine, in a considerable quantity, and of a sandy consistence, I altered his medicine, and gave the sulphate of iron and sulphuric acid, which effected a cure.

Shortly after this treatment, inflammation of the parotid and submaxillary glands ensued, which ended in suppuration. The horse is now in good condition, and in the possession of Major Bainbridge.

## CASE II.

A blood-foal, about a fortnight old, was affected with diarrhœa. In order to relieve him, the yolks of eggs, port-wine, &c. had been administered—favourite medicines in our island. On the next day he died.

On examining and cutting into the pelvis of the left kidney, there was a most extraordinary large portion of it incrustated round with a kind of shell-like substance, and the space filling up from the bottom with a calculus. This incrustation must have occupied a considerable time in forming, and its origin must have been coeval with or prior to the birth of the animal. Had the colt lived the stone would have been of immense size. I had promised to have sent it to a medical gentleman, but, by some unfortunate means it was lost.

## CASE III.

A five-year-old horse, the property of William Brock, Esq., had the fetlock-joint punctured by a nail. After the joint was closed, ossific matter was thrown out, to remove which the actual cautery was applied. This horse was similarly affected with that of Miss Sayers, described in Case I, only the symptoms were of a more aggravated character. The calculous deposit left from the urine would frequently fill up the small drain under the grating of his stall. I tried several remedies, but succeeded in curing him with the sulphate of iron and sulphuric acid, in very large doses: I sometimes gave it to him in bran and ground oats, and at others in water alone. He was soon relieved, and in six weeks got into good condition.

In this case strangles did not follow, but swelling of all four legs ensued, with cracks and discharge of matter from the heels. He has been nearly three years in constant work since, and has suffered no relapse. Dr. Scott, of the Rifle Brigade, analyzed the deposit from the urine, and found it to be composed of the sulphate and carbonate of lime.

## CASE IV.

A valuable old hunter, the property of Captain Greathead, of the 8th regiment, soon after landing in this island was attacked with inflammation and stoppage of the bowels, occasioned, I believe, by a torpid state of the liver—the fæces being of a yellow clayey colour. We took from him a very large quantity of blood, and after the inflammation had subsided I gave him the blue pill. The groom's account of him was, that it was difficult to keep him in con-

dition—that he was frequently ailing, and yet the ailment assumed no tangible form. He had also *the* peculiar staring coat.

About a month after his recovery from this attack of inflamed bowels I was again called upon to attend him, he having fallen down in his harness while standing at a door. He has had seven or eight of these attacks, and the appearances at those times are redness of the conjunctival membrane, the Schneiderian membrane being of a purple hue—dilated pupils—a wild look—hard and quick pulse, and every symptom of approaching death. I bled him freely the first time, and opened the bowels; but still the giddiness remained.

Some time afterwards I perceived that a most intolerable stench arose from his urine. Having ascertained that the urine contained excess of lithic acid, and stating the case to Dr. Magrath, of this island, he kindly suggested my trying the effect of the liquor potassæ in a mash thrice a-day, increasing the dose to two ounces. In a short time it produced a wonderful alteration. It entirely removed the stench from the urine, opened the pores of the skin, and worked an entire change in the appearance of the horse. I observed particularly a constant dewy wetness on his cloth from the condensed cutaneous perspiration immediately over the region of the kidneys. The last eight months he has done a great deal of work, but has had no return of giddiness.

#### CASE V.

A horse of my own, nearly thorough-bred, which I reared from a colt, and which had been always particularly healthy, with a fine satin-like coat, has, for the last three months, exhibited great dullness after the administration of medicine, and also a staring unhealthy coat. One day on putting him into the stable for a short time, he staled, and I afterwards observed on the floor about a table-spoonful of deposit in appearance like wet brick-dust. Having collected as much as I could, I gave it to a chemist to analyze, who found it to consist of carbonate of lime. This horse was five years old last April, and had not had the strangles. I gave him, as in the other case, the sulphate of iron and sulphuric acid; after which a swelling took place in the hind legs. He very soon regained his healthy shining coat.

In all the afore-mentioned cases the legs were particularly fine before the medicine was given; but afterwards the glands of the throat swelled and suppurated, or the legs swelled. I do not mean to say, that all the above cases were those of suppressed strangles; but I am led to suppose that the affection described was connected with a derangement of the glandular system of the body.

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## ON THE ACTIVE PRINCIPLE OF MOCHA OR BOMBAY ALOES.

*By W. J. T. MORTON, Esq., Lecturer on Veterinary Materia Medica.*

BRANDE, in the last edition of his "Dictionary of Materia Medica and practical Pharmacy," says, "Aloes appears to be a mixture of gum, extractive, and a little resin; but whether its activity resides in one or all of these components has not been accurately ascertained."

Following up the experiments instituted by me with the Mocha aloetic extract, I dissolved twelve-and-a-half ounces of it in water, and obtained

Bitter Soluble Extract.....	9 oz.
Resinous Matter.....	2 $\frac{1}{4}$ oz.
Refuse.....	10 drachms

I gave to a horse, the subject of experiment, four drachms of the resin, and no visible effect whatever followed its exhibition; six drachms were then administered with the same result; and, after allowing a day or two to intervene, the remainder, one ounce, was given, and still no action was apparent. I hardly need add, that, during this time, the animal was kept on a low diet, consisting principally of mashes.

When I felt convinced that no influence of the agent could any longer be anticipated, I gave four drachms of the bitter extract. On the following day the alvine evacuations were a little softened, and more frequently voided. Four days after this I exhibited six drachms, which purged the animal freely. These experiments I leave to speak for themselves.

The bitter extractive, when separated from the other constituents of the drug, very closely resembles the Cape extract. It has lost its brown colour and its opacity, and become dark-coloured and translucent; breaking smooth and splintery at the edges.

The greater part of the odour appeared to remain in combination with the resinous matter.

The suggestion which I ventured to offer for the formation of a purgative mass seems likely to be superseded by the introduction into the market of a considerable quantity of the STRAINED MOCHA EXTRACT, from which all the impurities have been removed. In its external characters it is similar to by no means a bad sample of the Barbadoes extract, for which, indeed, by the inexperienced it may be mistaken.

The following formula may be accepted; and it appears to possess some advantages, the principal of which are, that it does not

“run” so much as the ordinary compound, and the bulk of the ball is lessened.

Take of Aloes in small pieces.....	8 parts
Hard Soap, sliced.....	1 part
Water.....	1 part

Melt together in a water-bath.

Any loss of water by evaporation is to be made up after the melting has become perfected, and then, should it be deemed necessary, a little essential oil, as that of caraway-seeds or anise, may be added.

It will at once be seen, that the substances combined with aloes, for the sake of the requisite consistency, amount to one-fifth of the mass; so that by an easy calculation a definite quantity of aloes may at any time be given.

The addition of soap to aloetic compounds has been objected to by some practitioners, on the grounds that, by it, the action of the purgative agent is diverted to other organs, for instance, to the kidneys. Soap, however, acts but slightly as a diuretic, and in large quantities it becomes a laxative. Here the quantity is so small that I cannot think it will materially affect the operation of the compound.

The alkalies have been said to diminish the purgative effects of aloes by rendering it less irritating, while they increase the solubility of the extract, and cause it no longer to act specifically upon the large intestines; changes which are sometimes desirable.

My having been instrumental in bringing this kind of aloes before the profession, will be accepted as an earnest of my endeavours to aid in the onward progress which the science of veterinary medicine is now making.

Those who may hereafter use this extract, or those who already have employed it, would confer an obligation on the members of the profession by communicating the results of their experience. Improvements, doubtless, may be made; and I can only say, that I shall be happy to avail myself of any suggestion which will tend to accomplish this.

## ON THE POWER OF THE DINIODIDE OF COPPER, WHETHER INTERNALLY OR EXTERNALLY APPLIED.

*By the same.*

IN addition to the kind and friendly testimony of Mr. Mayer as to the influence of the DINIODIDE OF COPPER on the animal economy, I have received many others corroborative of its powerful and beneficial action.



In a case of farcy lately in the College Infirmary, and which ultimately yielded to this therapeutic, although for a time the disease proved obstinate and the ulcers assumed a very unhealthy appearance, I was induced, with the consent of the Professors, to try its effects when topically applied. This I did by sprinkling a small quantity over the ulcers in a state of powder. The change was very marked after only two applications. The agent, by combining with the secretion, caused its coagulation, thus forming an encrustation, which, on being removed, a more healthy surface was presented underneath. It also appeared powerfully to stimulate the vessels, for the ulcers quickly filled up, their edges contracted, and the healing process soon became completed.

## THE TREATMENT OF A CASE OF FARCY IN THE HUMAN BEING.

*By* JOSEPH CURTIS, *Esq.* *M.R.C.S.*

ALTHOUGH the following case did not occur in veterinary practice, it appears to me that it may prove interesting to veterinary surgeons: I have therefore sent it to you in preference to a medical periodical.

*January 24th, 1840.*—I was consulted by Mr. Greswell, a student at the Veterinary College. About three weeks before this time he had received a slight wound on the fore-finger of the right hand, while dissecting a glandered horse. He sucked his finger and applied caustic, after which it healed. About nine days afterwards a small abscess formed in the part, which he would not have opened. The pus was absorbed, and the finger got well.

At present there is nothing the matter with the right upper extremity; neither the lymphatics nor glands have been affected.

He was attacked yesterday with giddiness while attending the lecture, and was obliged to leave the room. He went and lay upon some straw for a short time, but soon came round.

At present he has three blotches of inflammation of the skin, on the right leg, varying in extent from two to four inches. The leg is very painful when he begins to walk; but improves after walking a short time. He has likewise some small blotches on the left leg. He has head-ach and slight thirst—appetite tolerably good, pulse about 60; no other constitutional symptoms.

R Magn. Sulph.....	3 <sup>ss</sup>	
Decocti Jalapæ.....	3i	
Liq. Ant. Tart.....	3ij	
Aq. Menthæ Pip.....		
— Puræ āā.....	3ij.	M.

Sumat quartam partem quartis horis.

Apply six leeches to the right leg, and afterwards an evaporating lotion.

To be confined to low diet and to keep his bed.

25th, 1 P.M.—The three blotches near which the leeches were applied appear much smaller; but there are numerous small blotches over both legs and thighs. In many the centre is of a pale-green colour, having a somewhat gangrenous appearance. The head-ach is much worse; there is a sensation of weight over the eyes, and tenderness over the left frontal sinus: pulse 60, countenance natural. He has eaten a good breakfast.

R Tinct. Iodini.....	3ss	
Infusi Lini.....	3j	
Aq. Puræ.....	3v.	M.

Sumat quartam partem quartis horis.

Continue the lotion.

Half-past eight. P.M.—Legs much the same; a few more blotches have appeared; head worse; rather more thirst; tongue rather white; pulse 84; appetite not so good; feels chilly; has occasionally slight shiverings; has taken one dose of the mixture.

Continue the mixture, and foment the legs with warm water.

26th, half-past eleven, A.M.—The blotches on the legs are paler; but several are still greenish in the centre, very much resembling a bruise; head-ach much better; pulse 60; bowels confined; had very little appetite for his breakfast, but appears much better in all respects.

Continue the mixture and lotion.

R Magn. Sulph.....	3vj	
Decocti Jalapæ.....	3iss.	M.

Fiat haustus statim sumendus.

Eight, P.M.—Going on well, but no evacuation from the bowels; he felt rather sick after taking the draught; pulse 60; ate rabbit and ham for dinner. On the left thigh one of the blotches, about the size of a sixpence, has a small pustule on it as large as a pin's head.

Continue the mixture.

R Hydr. Subm.....	gr. iij	
Extr. Colocinth. C.....	gr. vi.	M.

Ft. massa in pil. ij dividenda et statim sumend.

27th.—Bowels have acted once slightly; head-ach severe; the blotches appear to be dying away.

Continue the mixture, and take an opening draught every four hours until it operate.

28th.—Has taken three opening draughts, which have acted freely; head much better. The centre of three of the blotches, which is still green, appears to form cavities containing a fluid from about the size of a shilling to that of a half-crown. These are surrounded by hard, defined edges, and covered by the cuticle, which

is upon a level with the surrounding parts. The thickening of the skin round the cavities is disappearing.

30th.—Going on well; pulse about 60; appetite tolerable. The fluid in the cavities appears absorbed; about their edges are lumps about the size of peas—larger or smaller—but not so regular in shape; the cuticle is peeling off in places.

To leave his bed.

February 1st.—Convalescent. There are still tubercles in the situation of the blotches, and slight discoloration of the skin; otherwise he is well.

Omit medicine.

April 18th.—The tubercles remained for several weeks, but are nearly gone. I saw Mr. Gresswell to-day, who is in other respects quite well.

Upon looking over the foregoing case, the first inquiry will naturally be, What was the nature of the disease; and to this I fear I cannot give a very satisfactory answer. My first impression, from the appearance of the patient and the circumstances which had taken place three weeks before he applied to me, was, that he was the subject of glanders; and I am still inclined to the same opinion. I have searched books, and made inquiries among all my friends likely to be informed upon the subject, but have not met with any very satisfactory information. All the cases I have heard of have not been noticed by professional men until they had become much worse than the foregoing. In Rayer's plates, which I have had a view of through your kindness, all the cases there depicted had formed open ulcers; and so it was in all the cases I have heard of. This disease occurs, of course, principally among ostlers, soldiers, &c. who will not apply for medical assistance until unable to follow their usual employment.

If my opinion be correct, this case will shew, as far as a single case can be relied on, that the intractable nature of this disease arises rather from its neglect in its early stages than from its natural virulence. It likewise shews, that there is nothing deleterious, *at first*, in the secretions of the affected parts, since the fluids and tubercles perceived upon the limbs of the patient have been absorbed without affecting his health.

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[The following observations, by our friend, Mr. Percivall, were not designed to meet the public eye; but the description of the disease in our patients is so peculiarly graphic and characteristic, that we cannot refrain from laying it before our readers.]—Y.

“I think Mr. Curtis's case very analogous to incipient farcy. The ‘blotches of inflammation’ appear to have been *absorbents*. The pain on beginning to walk, and its abatement afterwards, is coinci-

dent with what we see in our own patients. The sloughy condition of the blotches, or rather their 'formation into cavities,' and 'containing a fluid,' likewise favours this view. I have seen—and so have all of us—many cases of incipient farcy get well after having been purged and alteratived, and exercised, and dieted, &c., and, in the end, *tonic'd*."

## THE VETERINARIAN, MAY 1, 1840.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE time drawing near for the presentment of the memorial, on the grant or refusal of the prayer of which depends, for awhile at least, the onward progress of our art, Messrs. Mayer, whose names will long live in veterinary story as the originators of this noble attempt to render our science that which its founders contemplated—that which it ought long ago to have been, and which the present times imperious demand that it should be, are anxious to give an account of their proceedings thus far. They have been favoured with the signatures of a number of veterinary surgeons much greater than they dared to anticipate. It may be supposed that—although the old proverb has been completely falsified, and although there have been many men, but all in every essential point of one mind—there have been some valuable suggestions, and some points of the memorial have been to a certain degree modified.

Our estimable friends wish to report progress, and to ask their brethren to

Observe the subject of the plot,  
The manners, passions, unities, what not!

They wish to make those by whom they have been supported acquainted with the trifling modifications which they have deemed it necessary to introduce—for the main points remain unscathed, untouched—in order that before the presentation of the memorial the subscribers to it may have time to forward any new suggestions, and that others who have somewhat slumbered over the matter may add their signatures to those of the majority of certificated practitioners, who, exceeding the most sanguine expectations of the originators of the memorial, have sanctioned the proceedings by their approval.

The meeting of the Governors is usually held early in the second week in May; therefore they who have alterations of greater or lesser consequence to suggest, or who wish to swell the glorious majority of their brethren, have but little time to lose.

But we will leave the respected originators of the whole to

speaking for themselves. They are thus addressing each correspondent in a letter which now lies before us.

“Sir,—Conceiving that, as faithful stewards, we are in duty bound to render to those of our brethren who have honoured the memorial with their support and signature, an account of what has been done, and is intended to be done relative to it, we have great pleasure in performing this task.

“Two hundred and eighty-eight signatures are attached to the memorial, thereby expressing the approbation of each individual, and those, taking into account above seventy returned circulars, the parties being either dead or their residence unknown, affording *a majority of the whole profession*, and containing as much of the talent, respectability, and wealth of the veterinary body as any parallel number that can be selected.

“As our professional brethren have a right to know that their confidence in us has not been misplaced, we shall ultimately record the whole of the signatures in *THE VETERINARIAN*; and as there may be some practitioners who may not have received a copy of the memorial, let them be assured that no slight was intended to be offered to them, but the simple explanation of the matter is, that their residence was not known. They will find a copy of it in the No. of *THE VETERINARIAN* for March, and we should be proud if they would permit us to attach their names to it, and accept this explanation of the cause of our apparent neglect.

“Our object has been, from the commencement, to give that permanent standing and character to our Alma Mater which she ought to possess—to strengthen the hands of our Professors—to establish an efficient course of education, the best of the kind—to ameliorate the condition of the whole body, and to strengthen the natural and growing connexion which is taking place between the English Agricultural Society, and the agriculturist everywhere, and the practitioners of the veterinary art.

“The letters which we have received not only breathe an ardent desire to behold the Veterinary College assume its proper position among other similar establishments throughout Europe, but to have established a more perfect course of education than at present prevails. We will not conceal that we have ulterior views. When we have made the education of the veterinary surgeon that which it ought to be, and which it is in every institution of the kind but ours, we shall have a right to think of, and to supplicate from the powers that be, “a Charter of Incorporation,” to protect us from illiterate and uneducated men, and to afford us the same privileges and exemptions which other professional bodies possess.

“We have been much gratified in finding a respectful and proper tone of feeling pervading our brethren towards the Professors and the Governors. This has cheered us on in the course which we are steadily pursuing, in order to secure our common object.



“A new class of patients is added to those that have usually occupied the attention of the Professors of the Veterinary College. The breeds of cattle and sheep are more diligently cultivated and far more valuable than they were half a century ago. The proprietor feels more interest in their health and disease, and entertains a higher opinion of those persons by whom the first may be prolonged and the latter removed. A knowledge of the proper treatment of the diseases of these animals is becoming more and more important to the veterinary student every year.

“In recommending a distinct professorship for the pathological department of cattle, sheep, &c. let it not for a moment be supposed that we do not entertain the highest respect for the present Professor. We yield to none in our esteem and regard for him; but he has more imposed upon him than he can possibly accomplish with satisfaction to himself and full advantage to the pupils. The duties to be performed with regard to the horse alone, if properly discharged, require all the energy of mind and body which he can give to them; *and those belonging to the department of cattle, sheep, &c. cannot be performed in such a manner as to carry out, fairly and honestly, the views of the farmer, and particularly of the Agricultural Society and of the professional body.*

“The consequence of this, at some remote, or, perhaps, no very distant time, will be the establishment of another institution in the heart of the country, to the irretrievable injury of the College. We are addressing our veterinary brethren, and the plain and evident truth must be frankly spoken; and therefore it is that in our memorial to the Governors we have earnestly entreated the appointment of a Pathological Professor for Cattle. Among all our brethren who have been bred among cattle, and who have practised on their diseases almost from their childhood—and from this class of men he must be selected—more than one could be found, who would produce at a public competition, satisfactory testimonials of his ability to discharge the duties of the office to which he aspires.

“But there is that on which this practice must be founded, or with which it must be associated, in order to be successfully conducted; or, in fact, to be any thing more than the mere pretension of an empiric: we allude to a knowledge of the anatomy and physiology of these animals. There are many of our brethren who possess this to a highly creditable degree; yet there might be some difficulty in finding the person in whom they are so fully combined, as to enable him with honour to undertake the professorship to which we have been alluding. We are speaking here altogether without authority; but there is a gentleman now at the Veterinary College, who, to a most perfect knowledge of the anatomy of the horse, unites a highly creditable one of those of the inferior animals—who rarely delivers any lecture on the structure of the horse which is not illustrated and rendered more interesting by allusions



to the formation of the same part in other animals, so admirably adapting them to the situation in which they are placed and the purposes which they are to accomplish. It is true that he has already enough to employ, and somewhat oppressively, his time ; but, possibly, he might be induced to take that as a part of his duty, and to enter more fully and completely into it, from which he now evidently derives so much pleasure, especially if the clinical portion of the treatment of the horse were to be more equally divided. But we repeat, that we are speaking altogether without authority. We have not, however, the shadow of a doubt that a teacher of the anatomy of cattle, fully efficient to discharge his duty, would, at no great distance of time be found.

Another Professor, as in every other school but ours, will be imperiously required when the number of patients, and the character of their food and the nature of the medicines required, varying with their strangely varied structure and diseases, are considered,—a Professor of *Materia Medica*, Chemistry, Dietetics, &c. ; but this requires not another word.

“If these additions to the studies, and to the ultimate efficiency of the pupils, should be granted by the Governors, the amount of the admission fee must be very materially increased. The average amount of the fees to which we have alluded would be forty guineas, a sum which, if we dared, we should recommend the Governors fearlessly to adopt, as it would enable them better to remunerate the present Professors, and all others whom they may deem it proper to appoint ; as well as to leave a balance for inferior officers, and particularly for the Demonstrator, on the talents and exertions of whom in every school a great deal depends.

“Should the Governors be willing to raise the fees only to thirty guineas, a sum much less than the student was compelled to pay until the last twelvemonth, it is doubtful whether without an annual grant from the English Agricultural Society towards the establishment of a Professorship for Cattle, or the general fund of the institution, these improvements could be adopted. No scientific and talented man, if he has a practice worth having, will be induced to leave it unless well paid ; and whoever is appointed to that chair should be not only a scientific and talented, but a sound practical man ; one that has been regularly accustomed to witness and to treat not only one or two, but all the diseases of cattle, otherwise he has no business at the Institution.

“We have been told that the English Agricultural Society has voted a grant of £200 per annum towards the remuneration of the Professors of Cattle Pathology and Anatomy. If this should be the case—if there is an appointment of Professors who honestly deserve these titles, the matter will easily be accomplished.

“It has been argued by some persons that, by increasing the en-

trance fee we shall injure the school by lessening the number of students. We will not enter into any invidious comparison, but content ourselves with stating that, although the London Medical Schools are by far the most expensive, and the curriculum the most difficult to master, and the examination for a diploma the most rigid, the number of students is, without comparison, the greatest.

“It has been stated on undoubted authority that, in 1837, there were admitted for diplomas at the College of Surgeons, 303 young men: in 1838, 538, and in 1839, 675, proving that where an efficient plan of education is enforced it will command the attendance of the student in despite of all obstacles. No school will decline unless it wilfully and blindly contents itself with a state of mediocrity—a state which, at the present time, would be incompatible with the best interests of the Veterinary College. The demands of the Society, and the improvement of the profession should go hand in hand.

“It is always wise to keep abreast with the times, but much wiser for the directing bodies, whether they are individuals high in rank and station, or appointed for specific objects, to anticipate—not the capricious demands of the vitiated portion of society, but the evident and legitimate demands of their country. The arts and sciences naturally unfold themselves as men progress in civilization. The science of agriculture, with which our art is so intimately allied, is progressing most rapidly of all. Let us watch the signs of the times, and let all strife and cabal be hurled into the shades, and banished for ever from among us.

“One circumstance more deserves very serious attention. No distinction, at present, exists with regard to the period of residence at the Veterinary College. They who have served an apprenticeship for a certain number of years under an able instructor, or who have been educated for the profession from their very childhood, find themselves on a perfect equality, as to their residence at the College, with those who are totally ignorant of veterinary practice. This is plainly wrong. After much thought upon the subject, we have ventured to solicit the Governors, that they who have not previously enjoyed the advantage of apprenticeship shall remain at the College three years—they who have been apprenticed to a regular practitioner, two years—and they that come with the diploma of another school in their pockets, one year. This arrangement carries justice on the face of it. The months of relaxation during the summer vacation will be allowed to those who are disposed to take advantage of them.

“All these points being conceded—and is it possible that, being so plain, so just, so advantageous, one of them should be, to any material or fatal degree, refused—we can with a good grace pray for a CHARTER? We shall possess every element necessary to its

existence; and we shall feel the benefit of it in the increased esteem with which, if we are well-conducted ourselves, we shall be regarded; we shall claim an exemption from vexatious and harassing parish offices; and we shall have the power to interfere, so far as discretion will warrant, between the public and the unauthorized intruder.

“If, Gentlemen, you can, after this full and honest avowal of our purposes favour us with your support, we shall be proud. Our ambition is to see that Institution within whose walls we have been educated, rear her venerable head with increasing honours as years roll over her, and to extend her protection and her benefits to our latest posterity.

“We remain, &c.”

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We will not add a word to this beautiful circular. It will make its due impression.

We cordially thank our friends, and, most of all, our friend Percivall, for the kindness which we received from them during the last month. It will never be forgotten.

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## THE EXAMINATION AT THE EDINBURGH VETERINARY COLLEGE.

[Although the following history of the examination at the Edinburgh Veterinary School has reached us with rail-road speed, and somewhat beyond the last minute, we insert it as a just compliment to the Professor, although it excludes our “Review” and a short paper or two of some interest.]

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THE Annual examination of the students attending this institution, established by the patronage of the Highland and Agricultural Society of Scotland, and under the able tuition of Professor Dick, was held in the Clyde Street Hall, on Tuesday and Wednesday, the 21st and 22d inst. There were twenty candidates for diplomas examined, eighteen of whom were declared by the examiners worthy of receiving them, in order to practise the veterinary art. The examinations commenced at noon, and were continued for about three hours each day. The examiners included several of the most eminent medical practitioners and lecturers of this city, and such veterinary surgeons as happened to be in Edinburgh at the time. While alluding to the latter class, we advert with pleasure to the circumstance that, on the present occasion, Mr. Robinson, a licentiate of the Veterinary College here, and the first who has received the appointment of veterinary surgeon in

her Majesty's cavalry, under the arrangement lately made in reference to this College, through the influence of the Highland and Agricultural Society, came from the Cavalry Dépôt at York, for the express purpose of attending the examination.

The medical gentlemen who conducted the examinations were Sir Charles Bell, Professor of Surgery in the University, Sir George Ballingall, Professor of Military Surgery in the University, Sir William Newbigging, Professor Lizars, Dr. Bothwick, Dr. Handyside, Dr. Spittall, Dr. Knox, Dr. Lizars, Dr. Reid, Mr. Fergusson, Professor of Surgery King's College, London, Mr. Burt, Mr. Grey, Veterinary Surgeon, Edinburgh, Mr. Dycer, Veterinary Surgeon, Dublin, Mr. Olden, Jun., Veterinary Surgeon, Cork, Mr. Robinson, Veterinary Surgeon, Cavalry Dépôt, York, and Professor Dick.

The examination was conducted in the presence of several of the directors, and other members of the Highland and Agricultural Society, under whose immediate patronage the Veterinary College has been fostered and brought to its present state of excellence, through the instrumentality of its talented Professor. The number of pupils who attended this session was 78, of whom 48 were professional students, who, besides possessing the advantage of witnessing the demonstrations and extensive practice of Professor Dick, have the peculiar privilege, nowhere else enjoyed by veterinary students, of obtaining an intimate acquaintance with human anatomy and physiology, by attending, gratuitously, the prelections of several of the eminent lecturers who have been a great means of extending the basis of medical education in Edinburgh. The fruits of this latter advantage were well displayed at the present examination. Those who have been in the habit of attending the annual examination for several years past, as we have been, cannot fail to observe the improvement in general proficiency manifested in each succeeding year, as was well remarked by the Chairman in his address to the students. The appearance made by all the candidates for diplomas was highly creditable, and among three selected by the medical examiners to stand in competition for the Honorary Medal, presented by Professor Dick, they found it a matter of exceeding difficulty to decide. These three were again subjected separately to a direct re-examination by Professor Lizars, on the same subjects, involving both principles and practice; and the result was, that two were declared so equally meritorious, that it was determined to give a medal to each. In obedience to a standing rule, imposed for the first time this year, every candidate for a diploma produced at least one dissection, some four, shewing by injection the bloodvessels and nerves of some important part of the frame, and a medal was awarded for the best preparation. This honour was gained by one of the two candidates who obtained the medal for general excellence; and this

combined result may, we believe, be expected usually to take place, because the best general knowledge of anatomy will, no doubt, enable the student to make the most valuable dissection. All the dissections were much admired by the medical gentlemen.

The members of the Highland and Agricultural Society present on this occasion were, John Burn Murdoch, Esq. of Gartincaber, Chairman of the Veterinary Committee, and Sir Charles Gordon, the Secretary of the Society, who were officially in attendance,—Sir George Macpherson Grant, Bart., of Ballindalloch, Mr. Home Drummond of Blair Drummond, M.P., Major-General Mayne, Colonel Blanchard, R.E., Professor Low, Captain Macpherson Grant, Mr. Hunter of Thurston, Mr. Gordon of Cairnbulg, Mr. Lamont of Lockdow, Mr. L'Amy of Dunkenny, Mr. Macdougall of Gallanach, Mr. Bell of Hunthill, Richard Hunter, Esq. Norman Hill, Esq., James Fergusson, Esq., and Henry Stephens, Esq., Editor of the Society's Transactions.

The names of the candidates who, on this occasion, obtained diplomas to practise as veterinary surgeons in any part of the kingdom, and which renders them eligible to be appointed, as such, in her Majesty's cavalry, and that of the Honourable East India Company, are—

Messrs. J. W. Lockwood, York,	} Medal for best dissection. Equal, Medal to each for general excellence
T. B. Tennant, Maybole,	
John Irvine, West Hill, Dumfriesshire	
Robert Laidlaw, Dunfermline	
Thomas Mather, Edinburgh	
William Worthington, Lincolnshire	
Thomas Thompson, Coldingham, Northumberland	
Thomas Dixon, Dumfries	
Robert B. Paterson, Dumfries	
George Morton, Edinburgh	
James Sproul, Paisley	
J. W. Charles, Accrington, Lancashire	
Joseph Auckland, Elgin	
Alexander Carmichael, Bradford, Yorkshire	
William Barr, Stair, Ayrshire	
William Allison, Warrington, Durham	
Edward Waldie, West Gordon, Berwickshire	
Alexander Halket, Cairngall, Aberdeenshire.	

The students finished the labours of the session by dining together, with a number of friends and medical gentlemen whom they had invited to join them, in the London Hotel, St. Andrew's Square, on the evening of Wednesday.



DINNER OF THE FRIENDS AND STUDENTS OF THE  
VETERINARY COLLEGE, EDINBURGH.

THE annual dinner of the friends and students of the Edinburgh Veterinary College, with their talented Professor and the Examinators, took place on Wednesday, the 22d inst., at the London Hotel. Mr. Edward Dycer, one of the passed students, was in the chair; supported on the right by Professor Dick, Dr. John Reid, Lecturer on Physiology, Professor Simpson, of the University, Professor Fergusson, of King's College, London, and Dr. Handyside, Lecturer on Anatomy; and on the left by Sir George Ballingall, Mr. Burt, Surgeon, Dr. Knox, Lecturer on Anatomy, Dr. Robertson, Lecturer on Surgery, and Dr. Spittal. Mr. Joseph Lockwood, another of last year's students, officiated as croupier, supported by Professor Lizars, Dr. Lizars, Lecturer on Anatomy, L. Stephens, Esq., Editor of the *Quarterly Journal of Agriculture, &c.*

After the usual loyal and patriotic toasts had been drunk,

*The Chairman* said he had his misgivings respecting his ability to propose the toasts of the evening, when he considered the merits of the gentleman whose health he was about to give; the more especially as his own feelings were beyond any words by which he could express them. Laconism, however, was no great fault: and he should content himself with saying, that the individual was one with whom every student was intimately acquainted; one who had shewn by his actions that he had the interest of all at heart; and who, if he was not the *primum mobile* in the establishment of the veterinary art north of the Tweed, and in raising it from its obscurity to be a star that now glitters in the galaxy of science, still was the most active and indefatigable agent in securing for the Scottish veterinary students the enjoyment of privileges equal to those of their brethren south of the Tweed, and had opened a fertile field for the aspirations of their ambition as long as they were guided by honour and honesty. Of his private character he was precluded from speaking, seeing that he had enjoyed the privilege of the paternal roof from his very childhood; he should only say, and it was impossible for human being to say more, that his private character was equal to his public. (*Cheers.*) If he had the eloquence of Demosthenes he could enlarge on this point; but he should content himself with claiming from them a *bonâ fide* bumper to the health of their respected teacher, Professor Dick. (*Loud and enthusiastic cheering.*)

*Professor Dick* (who was received with loud cheers) begged to return his most sincere thanks for the honour which had been done him, both for the manner in which his health had been proposed, and for the way in which it was received. It gave him great satisfaction, indeed, to see that another year had brought them together again around the festive board, where were assembled not only the friends of veterinary science, but many of his former



pupils: and he felt gratified to know that so many of them had distinguished themselves in their profession (*cheers*). He had formerly been compelled to state the difficulties which he had encountered in the earlier part of his career; but it was not worth while looking back upon them, seeing that they can now look forward to brighter prospects than any of them could have anticipated.

Since they last met together some changes had occurred in that institution in London which they had attempted to rival. The celebrated Professor who conducted that institution for more than half a century had lately departed this life; and some new arrangements had taken place since Mr. Coleman's death, some of which appeared to him to interfere with the rights and interests of the pupils of the Edinburgh Veterinary School. But he was happy to think that a neutral gentleman had been appointed as Principal Veterinary Surgeon, and whose duty it was to examine the qualifications of candidates for admission to the army, whether they were taught at one school or the other. He (Professor Dick) had not succeeded in raising his pupils higher than they were; but he had succeeded in placing the pupils of the London School on the same footing with themselves. He asked no preference—he sought no exclusive privileges—he would have no advantage over others—he only wanted fair play for the Edinburgh pupils. He was sure they would ask no more, and he would be sorry if they got any more (*loud cheers*). He expected that their own talents would soon raise them to distinction as veterinary surgeons, whether in the army or in the service of the East India Company.

Now that they had a fair field and no favour, he trusted that they would distinguish themselves by their knowledge of the science, and that uprightness and straightforwardness of conduct would ever direct their steps. It was unnecessary to say more, than simply to thank them for the kindness which they had shewn him during the past session by their attention and diligence; and he would only ask them to persevere in the same course; because, if the school under his tuition, aided by the kindness and support of his scientific friends, many of whom he saw around him—if the school, he said, had risen to any standing, it would only be supported by perseverance, attention, and diligence. Without the support of the students, it was impossible that he could conduct the school. He trusted that the same energy and anxiety would still be displayed; and that they would aid him in all his endeavours to keep up the character which the school had obtained. (*Cheers*).

*The Chairman* said the next toast required no preface; it was, "The University of Edinburgh, and Sir George Ballingall." (*Cheers*.)

*Sir George Ballingall* returned thanks, and stated that the veterinary surgeons had no warmer friend than himself. It happened, from particular circumstances many years ago, that he had been led to take a strong interest in the science. It was at first proposed to institute a class of veterinary surgery, in connexion with the chair

of comparative anatomy, then under the care of a friend of his, Professor Barclay, whose kindness to him he should never forget. The project, however, failed, and since that time it had fallen into much better hands, those of the Highland and Agricultural Society. From that time he had marked the progress of the class, from year to year, with increasing delight; and certainly the progress of no year had been more marked than this session. The preparations laid upon the table were executed with extraordinary talent. They did honour to the Professor, and they did honour to the gentlemen who prepared them. (*Cheers.*)

*The Chairman* next proposed "The Royal College of Physicians, with the healths of Professors Simpson and Dr. Reid."

*Dr. Reid* returned thanks. It had been his good fortune for the last few years to see several of the veterinary pupils attending his class: and he was glad of this public opportunity to state, that it gave him the greatest pleasure to see them there, and to observe their diligence and attention to his lectures. (*Cheers.*)

*The Chairman* then proposed "The Royal College of Surgeons, with the health of Professor Lizars."

*Professor Lizars* returned thanks, and stated that the College of Surgeons viewed with delight the connexion existing between veterinary surgery and itself; and if he were one of the Solons of the College of Surgeons, he would make the veterinary surgery class one for the attendance of young men before coming before them for a diploma—only he would not make it compulsory: he would leave it a voluntary class. He had derived great advantage himself from attending to this study; and if attention were paid to it by students in early life, they would ever after feel the benefit; for they could only see the use of certain applications to man through the medium of the horse and other animals. He had little reason to doubt that the other members of the College felt as he did himself, and in their name he begged again to return thanks. (*Cheers.*)

*Professor Simpson* rose to propose "Prosperity to Queen's College, and the health of Dr. Robertson." (*Cheers.*) He did so with the greater pleasure, as he had once the honour of holding an office in that Institution. It had been opposed in various quarters, but as he thought on very inefficient grounds; and far from being hostile to the interests of the University, it would be found to be one of its outward bulwarks. (*Cheers.*)

*Dr. Robertson* returned thanks. He stated that there had been private teachers in Edinburgh for a great length of time; but their efforts were disjointed for want of union: they had no means of pursuing a uniform plan—no means of enforcing internal discipline—no public library to assemble in—no hall for the reception of the magnificent museums which many private lecturers had collected. But he trusted that ere long the efforts of the teachers and the friends of the Institution would overcome those difficulties, and that the Institution would be placed in a higher position than it

had yet attained. He agreed with Dr. Simpson, that it would prove a valuable support to the library. They owed a debt of gratitude to the University for the high pitch of science to which she had attained, and to the distinguished men within her walls; but all must admit, that where appointments were for life old age would creep on, and the highest powers become weakened. It was to fill up such deficiencies that the private teachers were resorted to; and they would find, on comparing the numbers at the University with those at the private schools, that where a class was inefficiently taught at the University, the private schools throve, so as to outnumber the pupils even at the University itself: while if a class was well taught at the University, such were the advantages of that Institution (and he did not envy them) the pupils greatly outnumbered those at the private schools. After some further remarks he concluded by again returning thanks.

*Professor Dick* said he wished to address himself especially to the veterinary surgeons and the students present; and he was sure they would cordially join in the toast he was about to propose, because it was one in which they were deeply interested. He need only mention, that the toast was to the health of Dr. Knox and those other gentlemen, teachers of medical science, who had so liberally opened their class-rooms to the veterinary surgeons. (*Cheers*). From the time of his acquaintance with Dr. Knox he dated the prosperity of the school; for he first opened his class-room to the students, and all the other teachers had heartily concurred, so that now there was not a door shut to the veterinary pupil. Such kindness, perhaps, had never before been evinced to any institution, or any infant science; but such was the kindness shewn by the men of science to veterinary surgeons. It was more to that kindness than to his exertions that the pupils owed the high standing which they now possessed; and he trusted they would shew themselves worthy of it. (*Cheers*). He concluded by proposing "The healths of Dr. Knox, Dr. Reid, Dr. Handyside, Dr. Robertson, and the other gentlemen who had opened their class rooms to the veterinary surgeons." (*Cheers*.)

*Dr. Knox* said he could not help thinking he was more lucky than deserving in having his name put foremost in this honourable list of contenders who should most benefit the veterinary surgeons. He happened simply to be the first to open his class to the Veterinary College; and it was to that circumstance, and, perhaps, also to the prejudice in his favour arising from old acquaintance, that Mr. Dick had done him so much honour. He had looked back with unalloyed pleasure and satisfaction on the circumstance of opening his class to the veterinary students. He had become acquainted with one of the most remarkable men of the present day—their respected teacher and his excellent friend, Mr. Dick (*cheers*)—a gentleman who, he need not tell them, combined in himself those ex-

traordinary qualifications which single out great men from the mass of society—who was not more remarkable for his singular progress in knowledge than for those other acquirements which were associated with it and which endeared him to them—his zeal for knowledge and his extraordinary capacity for the highest scientific researches. This made him say, and he was sure they would all respond to it, that they had at their board a person of no ordinary stamp. (*Cheers.*)

When he first talked over the subject of the Veterinary College with Mr. Dick, he saw at once that something would be required to put the pupils upon a status that would not be mistaken, and bring them upon a level with medical students. It was this feeling which induced him to open his class-room to the students, and to shew them what they might do if they liked. This attempt, first hinted at by Mr. Dick, and afterwards boldly stated by himself, approached year after year nearer to completion: and he had no hesitation in saying, that if they took any equal number of veterinary and medical pupils—if they weighed well the advantages which each had possessed—the superiority would be found to rest with those around him. (*Cheers.*) His anxiety was, that this part of the kingdom should not be provincialized with respect to veterinary surgery,—that the centralization should not take place in London with respect to this science, so as to involve every other institution within it; but that they should have one body in the metropolis of Scotland to oppose that system of centralization in this respect; and he was glad to say, that in Professor Dick they had found a man who was able to carry out this idea, and to make the Veterinary College of Edinburgh vie with any other institution of the kingdom whatever. (*Loud cheers.*)

*Dr. Robertson* said he dared to say they would all consider the toast he was about propose a very useless one; for they would all agree, that merit was sure to command success. Now the toast put into his hands was “Success to the Veterinary College of Edinburgh.” All must agree, without the formality of a toast, that it deserved success; all must agree that it had the means of commanding success; that it had a man of great talent at its head; and therefore there could be no doubt it would succeed. The other part of his toast was “success to the students who had that day received diplomas.” How could any one doubt of their success? when they looked to the talents they had displayed, to the good sense which they inherited in common with their countrymen—when they looked to the good sense of many students who had crossed the Tweed to obtain a better education here than they could get elsewhere, there was no fear of their success. When they compared the merits of the two schools, he thought there was no danger of that centralization which *Dr. Knox* complained of lately. Would gentlemen come from a distance to obtain an education which they

could get nearer home and at less expense, if it was not better? He had no doubt that the diplomas of this College would rise in still higher estimation; and the gentlemen who had obtained them were sure of success. (*Cheers*).

*Mr. Lockwood*, the croupier, returned thanks, and proposed "The health of *Mr. Dick*, senior, whose kindness of manner had endeared him to all the students." (*Cheers*).

*Mr. Dick*, senior, returned thanks, and expressed his interest in the progress of the Veterinary College in a feeling manner. He reminded the students of the advantages they possessed, compared with the total want of facilities for acquiring knowledge when he commenced his career. He recommended them to act uprightly and honourably through life; and while no one would grudge them a proper remuneration for their services, he entreated them to be gentle when they came to deal with the poor man's mare, or the widow's cow. (*Loud cheers*).

*Mr. Lockwood* proposed "Prosperity to the Veterinary College of London." (*Cheers*).

*Mr. Dick* proposed the healths of *Dr. Burt* and the other examiners. Much as they were indebted to the gentlemen who had advanced the interests of the Institution, they were also indebted to those who, at a great sacrifice of time, had examined their qualifications, and had sent them out into life with the guarantee of their high names in medical science, as being qualified to perform the duties of their profession. (*Cheers*).

*Dr. Burt* returned thanks.

*The Chairman* begged to propose the health of a gentleman who had taken an enthusiastic interest in the welfare of the veterinary surgeons, not only in his professional course, but in attending them while in bodily suffering. He had seen that gentleman called up in the middle of the night to attend the veterinary student, and obey the call without the slightest hesitation. (*Cheers*). That gentleman was now about to leave Edinburgh; and while he was sorry in one respect, he rejoiced that he had been promoted to the honourable situation of an Institution which was fast rising into fame. He had been appointed Professor of King's College, London; and he thought Scotchmen ought to consider it a great honour, that a man had been called from the North of the Tweed to fill such a distinguished situation. (*Cheers*). It would ill become him to say more in his presence. He was well known to them all; and he was sure that he would leave Edinburgh with the regret of all who knew him. (*Cheers*).

*Professor Fergusson* returned thanks for the warm manner in which his health had been drunk, and for associating his name with King's College, London. He was sufficiently open to flattery to consider that a great honour had been conferred upon himself by his election; and he was glad to find that many of his friends considered it as an honour conferred upon the medical school north of the Tweed. (*Cheers*). He should part from Edinburgh with great regret; and if he could advance the interests of the veterinary school by his presence in London, they might be sure of his services. (*Cheers*). He concluded by proposing "The health of the Chairman," on whom he pronounced a high eulogium, as a warm friend and a distinguished ornament of the Edinburgh Veterinary School. (*Cheers*).

*The Chairman* shortly returned thanks.

*Mr. Dick* proposed "The health of Professor Low, and prosperity to agri-



culture." He regretted that they had not the pleasure of the Professor's company; but the arrival of a friend from Italy had prevented him from attending. He joined with the toast, "prosperity to agriculture," because their prosperity depended on that of agriculture. If agriculture was not in a prosperous state, there would be little need for veterinary surgeons; but he trusted that agriculture would advance with increased rapidity; that there might be a greater demand for agriculturists, and that would give additional employment and encouragement to veterinary surgeons (*Cheers.*)

*Dr. Knox* said he had been requested to propose as a toast "Prosperity and success to the veterinary surgeons now round the board." On this occasion he wished to say a few more words than merely giving the toast; and he should, therefore, like to address a word or two to the young gentlemen present. Ever since he had the pleasure of their acquaintance, and not only with them but with their predecessors in the class, the connexion had been one of unmingled pleasure and satisfaction to him. He did not know any circumstance that had taken place, either with regard to the veterinary surgeons or their Lecturer and Professor, that was not productive of unmingled satisfaction on both sides; and the object at which they aimed was proceeding far towards fulfilment in their constant progress towards a more important and a higher status than they at first possessed.

He thought that their success, as had already been ably expressed by others, was certain; and, perhaps, he was not entitled to offer them advice; but he would wish them to bear in mind, that they differed in an important point from mechanics, in the common acceptation of the term. He did not wish to deprecate any trade or employment, however humble, to which any portion of the human race was called; but he wished to point out to them that their profession, as his own, distinguished them from mechanics, properly so called, and the distinction lay in this, that they would be compelled to mingle, in a greater or less degree, scientific attainments with the ordinary business of life.

This was a distinction which now prevailed, and which probably would prevail between mechanics and themselves through all time. They heard, indeed, sometimes rumours, and suspicions, and dark hints as if the art would suffer by the progress of mechanical science, and that the utility of their art would gradually become less by the extinction of that noble animal which was committed to their care. With respect to that he should say, "sufficient to the day is the evil thereof"—if it come, let it come; but it would not come either in their day or in his, when the power of steam could supersede the horse in human affairs.

They would further permit him to say, that he did not think that it would ever come: and he hoped it never would; for, with the cessation of the horse they would lose the ploughman—they would lose those stalwart arms which had already defended Britain in a thousand actions. He hoped, therefore, the day would never come when they would lose the horse and the man that guides it.

He had also heard statements, that there was a probability of the College overstocking the country with the professors of this art. That was a complaint which was common both to their profession and to his own. Indeed, he found persons of a sceptical turn of mind, that questioned the utility of the art altogether. They must not take offence at such expressions; because, when a man was struck down by machinery or by a musket-ball, or if a horse were to fall, the first words, even of these sceptical questioners, would be "Bring a surgeon." (*Cheers.*) But with respect to the over-extension of the art, he might be permitted to say that, from what he had seen both in foreign countries and in the colonies, he was satisfied that the art was yet far from having attained that extension which it would ultimately acquire.

In the colonies their art was altogether unknown; the horse was neither fairly cultivated nor bred; and yet the colonies would only be held by that



description of force which required the horse and the veterinary surgeon. It would take him hours to describe the miserable scenes which he had witnessed in the colonies from the want of a few troops of cavalry and their accompaniments. He believed that in the sands of Africa, or in the boundless plains of Hindostan, where ultimately the struggle for the existence of Britain would take place—the foot soldiers would never be able to contend with that description of force with which they were connected. He might refer to the struggle now going on in North Africa. It was a contest between the horse and foot; and he could have no difficulty in predicting how it would end—the fiery Celt would be driven from point to point, until he was able to meet the Arab upon the very animal which he now despised.

But not to go so far from home, there was a fact which struck him as he was coming to the meeting,—that the annual revenue of the land in Great Britain was between ninety-five and a hundred millions. Whether he had exaggerated or understated the amount, they must remember that the half of that income was derived from the animals whom they were called upon to protect, not only from disease but from ignorance and inhumanity. (*Cheers.*) If his statement was right, then this followed—that property to the amount of fifty millions per annum was under their charge as medical men. It was not the horse alone, but all the other domestic animals, of whose enormous value, perhaps, some gentlemen present were not aware. After these remarks, he begged to propose his toast, “Success to the veterinary students,” and he had no doubt that they would obtain it. (*Loud cheers.*)

*Mr. William Dycer*, medical student, returned thanks.

*Mr. Dick* rose to propose a toast, and it afforded him great pleasure to do so, because with that toast he would couple the health of a gentleman whom he could rank among his pupils, a gentleman who had devoted his life to agriculture, and who now conducted the tide of agriculture in Scotland—he meant *Mr. Stephens*. (*Cheers.*) When he said, that he was the leader of agriculture in Scotland, he need only mention, that he was the editor of the “Quarterly Journal of Agriculture” (*cheers*), a work whose influence on agriculture was too well known to require any statements of his. It conducted not only the science of agriculture in Scotland, but in the world; for where shall we find so much attention paid to agriculture as in Scotland? to what quarter of the world does every one first turn for instruction, but to Scotland? where, in spite of an uncongenial soil and climate, such great objects had been achieved. *Mr. Stephens* had devoted his time, and, indeed, his whole life, to the advancement of agriculture; and the many high eulogiums which had been paid to the work was sufficient to shew its merits. He begged, therefore, to propose “*Mr. Stephens and the Quarterly Journal of Agriculture.*” (*Cheers.*)

*Mr. Stephens* returned thanks for the honor which had been done him, the more particularly as it was altogether unexpected on his part. As his name had been associated with the Journal, it in some degree relieved him of the embarrassment of personal feeling. He felt gratified at the high estimation in which the work was held in the country, as well as abroad; at the same time it had not that extensive influence which he could wish it to possess, the more especially when he considered that the work was under the illustrious patronage of the Highland Society of Scotland. (*Cheers.*)

As he was on his legs, perhaps they would permit him to give one toast—success to a sister Institution lately established in England upon something of the same constitution with the Highland Society—he meant “The Royal Agricultural Society of England.” (*Cheers.*) He thought this was an honour they were entitled to at the hands of such an assemblage as the present; particularly when they remembered that they were also, in some degree, connected with the Veterinary College of London. They had granted, he believed, £200 a-year for the endowment of a Professor who should devote his

### 372 STUDENTS WHO HAVE PASSED THEIR EXAMINATION.

sole attention to the diseases of cattle and sheep—a class of animals which, he must say, had hitherto been neglected in that College. (*Cheers.*) Considering that the Royal Agricultural Society of England were treading in the footsteps of the Highland Society, he begged to propose prosperity to that body. (*Cheers.*)

*Dr. Reid* rose to propose the health of their Croupier, who, besides having so ably filled the vice-chair, was entitled to their admiration in another respect—that he had carried off the medal for general excellence in the examination, as well as the first prize for the admirable dissections which had been exhibited at the examination. (*Cheers.*) He must state his opinion, that he was astonished to behold such admirable preparations made in the course of one winter. He could not have believed it if he had not seen it. He was sure the gentlemen north of the Tweed would not grudge that the honours of the Institution had been carried off, on this occasion, by an Englishman; but rather that it would stimulate them to increased exertion to endeavour to secure it in the next year. He proposed “The health of Mr. Lockwood.” (*Cheers.*)

*Mr. Lockwood* returned thanks.

*Mr. Dick* begged to propose another toast, to the health of a gentleman, or, rather, better health to him; for he was sorry to say that for some time past he had been confined with delicate health—he meant Mr. Youatt, of London. That gentleman had devoted himself for many years to the cultivation of science; and, like Mr. Stephens, he had attempted to raise the art to that state which its merits demanded, through the medium of a Journal which was published monthly, and of which, though he (Mr. D.) was nominally one of the editors, yet he confessed that he was a very unworthy, because a very inefficient one.

The existence of that Journal was entirely owing to his exertions and zeal for the promotion of science. It was no easy task to furnish new matter every month, in order to attract and please the reader; but his facility in writing, and his kind and friendly manners, had attracted the regard of the members of the whole profession, and he had been able to lay them all under contribution; and thus the Journal had gone on. He need not dwell on the advantages which science derived through the medium of the press; and by means of this Journal the veterinary surgeons were able to boast of equal advantages with other professions—where the members contributed all their discoveries, mentioned all they knew, and all that was likely to promote the progress of science. He begged, in conclusion, to give “Mr. Youatt, and THE VETERINARIAN.” (*Cheers.*)

*Mr. Lockwood* proposed “The health of Miss Dick and the Ladies of Edinburgh,” which was acknowledged by Mr. Dick.

*Mr. Dick* begged to propose “The healths of Mr. Olden, Mr. Gray, and Mr. Robertson,” who had assisted in the examination. He regretted that Mr. Gray and Mr. Robertson were not present; but he begged to propose their healths along with that of Mr. Olden. (*Cheers.*)

*Mr. Olden* returned thanks.

The rest of the evening was spent in much harmony, and the company did not separate till a late hour.

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### GENTLEMEN WHO HAVE PASSED THEIR EXAMINATION AT THE ROYAL VETERINARY COLLEGE.

*April 15, 1840.*

Mr. I. J. Hughes, Lane End, Stafford.

Mr. C. Hubbick, Alnwick, Durham.

Mr. J. W. Riches, Acle, Norfolk.

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ON THE NON-IMMORTALITY OF ANIMALS.

*By Mr. W. C. SPOONER, Southampton.*

I CONCLUDED my last paper by promising that, in the present, I would endeavour to establish two propositions, the first being, that the possession of reason did not prove immortality; and the second, that it was not reasonable to suppose that the animals below us in the scale of existence were immortal.

Let us first direct our attention to the former proposition, and, in so doing, we must suppose that it has been satisfactorily proved that reason is possessed by brutes. But why must this pre-suppose immortality? Is it because it is possessed by man, whose immortality is acknowledged? Certainly not; for brutes have numerous other faculties in common with man. Like him, they are susceptible of friendship and of love, and are influenced by the feelings of fear, hatred, and revenge. Some we find whose natures are kind and benevolent; others in whose ruling dispositions evil predominates. Many birds have the faculty of distinguishing musical notes, and most animals learn to distinguish certain sounds with ease. There are few brutes who cannot distinguish time (of which amongst dogs there are some remarkable instances well attested); and their power of recognizing persons and places, and finding their way from distant spots, have been also satisfactorily proved. And, besides the possession of these and other faculties, animals have the power of exercising them by means of attention, memory, and the association of ideas, as is beautifully shewn in Mr. Youatt's work on Humanity.

Animals required the possession of these several faculties in order that they should be enabled to put into practice their singular and different means of procuring sustenance, preserving themselves

and their offspring in safety, and, in short, fulfilling their destined purposes in the wide range of animated existence. If, therefore, for these same wise purposes, they required likewise the possession of some small portion of reason, is it probable that this faculty, too, would not be possessed by them?

The deeper we examine into the works of Nature and the farther we extend our researches into natural history and the construction of animal bodies, the more thoroughly are we convinced of the perfect adaptation of cause and effect—the intimate relation of the means to the end. As surely as an animal possesses a want, he possesses likewise the means of satisfying that want: if rapidity of motion is necessary, the organs of locomotion are enabled to furnish it; if a super-human sight is essential to the animal, the organs of vision are constituted accordingly. So immense, indeed, is the accumulative evidence on this head, that there is no fact in philosophy or mathematics better established than the wisdom and economy which pervades throughout Nature's works. As sure as we survey a part of an animal (always excepting *lusæ naturæ*), we are convinced that such a part was constituted for some useful purpose, even although this purpose may be unknown to us.

As the globe becomes more cultivated and inhabited, the wilder races of animals are diminishing, and the domesticated families increasing. All this is as perfectly consistent with the great designs of the Creator as the more unchanging state of the inhabitants of the ocean. Domesticated animals have less demand for pure instinct than the wilder races, but more for those faculties that can be improved or swayed by education, and particularly for that which enables them to deduct one proposition from another, and thus to accommodate themselves to the ever-varying disposition of the objects and circumstances around them.

Animals, therefore, possess just as much of the reasoning faculty as is necessary for them, and no more. They can draw a simple inference, but they cannot solve a problem in Euclid. They can form a shrewd idea from past experience as to whether they shall receive good or bad treatment from a particular individual; but they are altogether incapable of discovering whether the earth is round or flat, or whether it goes round the sun. If we might be allowed to compare the reasoning faculties to a lofty house, consisting of numerous stories, we should say that animals were fixedly and permanently confined to the ground floor, above which they could never venture to rise; whilst man is enabled to go aloft, and from the upper stories to gaze on the moon and the stars—to measure their distances, calculate their periods and their changes, and to contemplate the mysteries and sublimities of the creation in all their wonder and immensity.

Here we have a distinction, though not in kind but in degree, yet as clear and as marked as can be desired. It is the difference between the mountain and the mole-hill—between the Indian's fragile canoe and the magnificent ship of war; the former merely transporting its owner over the unrippled surface of a lake; the latter bearing a whole race of beings in safety amidst the fury of opposing elements. What greater difference can we desire? The reasoning faculties of animals enable them properly to perform the destined purpose of this world: those of man enable him to soar in thought above the things of time, and to endeavour to penetrate with his searching intellect the mysteries of futurity.

But this brings us to, and in some measure supports, our second proposition,—that it is not reasonable to consider that animals are immortal. We do not believe they are, for two reasons:—one, that there would be no use in their being so; and the other, that their faculties are not constituted for immortality.

Supposing that they are immortal, what purpose can be gained by their being so? They know nothing of the previous history of their race; they mourn not for their parents or their kindred; they cannot, therefore, like man, feel any anticipated delight in meeting them hereafter. The horse, indeed, may miss his companion, but does not know that he is dead, although he may actually draw his carcass from the stable. Supposing that they are immortal, are they to exist hereafter in the body or in the spirit? Let us suppose the former case, where is the material to be found in the globe for creating afresh all the lions and tigers, elephants, mastodons, and megatheriums that ever existed—to say nothing of the antelopes and the buffaloes innumerable, on which the former animals existed? Where are these large beasts to stand?—how are they to move?—what are they to subsist on? They themselves have, ages since, been converted into food for vegetables; these vegetables into pabula for animals; and these again, perhaps, have become food for man: and thus the circle has been moving round, and the same mass of matter, whether it be carbon or hydrogen or oxygen, has, probably since the creation of the world, been the food of hundreds of plants as well as animals, and, consequently, could never satisfy such numerous claimants if animals were again to appear in the body. This, therefore, is out of the question: it must be their spirits only that are meant.

Let us suppose the spirit of a cat to be immortal—is this animal to possess the same faculties as before or not? If the former, there must be mice and birds to catch, or there will be nothing to excite and gratify the faculties; but if their former propensities do not exist, what is there left of the mind of the animal to enjoy or even to possess existence? The fact is, the whole intellect of grinnalkin



is employed in catching his prey, procuring food, satisfying his desires, and enjoying his transient existence.

But let us go still lower in creation, and take for example the ephemeron of the moment that dances in the sunbeam, whose beginning and whose end are encompassed by the same hour. Such a being is brought into existence, satisfies its desires, continues its species, and then dies and makes room for others. What possible purpose can it answer to endow such a being with an immortal soul? What faculties does it possess separate from the body?

What is our idea of an immortal soul in a state of happiness? Is it not as a being free from debasing thoughts and passions, and filled with love and reverence for its Maker, and capable of admiring and comprehending the mighty works of creation? But what in animals can we find resembling this? The best, or at any rate the most striking, illustration of the divine principle in man is when we behold or read of a highly-gifted being laid upon the couch of sickness;—every portion of the body either racked with pain, or rendered powerless by disease, and yet the unconquerable spirit soaring, as it were, above its mortal companion, surveying the past and contemplating the future, breathing forth the purest benevolence, and beaming with intelligence and intellect.

What in the most highly-gifted animal can we find in the least corresponding with this?

Mr. Karkeek considers that the mind and the soul are one and the same; that the mind of the brute differs from that of man in degree, and not in kind: the former being immortal—ergo, the latter must be so likewise. On this subject I do not intend entering; for I take it that no human intellect will ever unravel the mystery. It is one of those subjects which I imagine is reserved for another state of being to understand.

But I contend that we have no right thus to reason upon such an hypothesis as if it was a demonstrated fact. The soul of man may be distinct from the mind, or it may not. Supposing the latter be the fact, is there any difficulty in conceiving that an all-powerful Being can constitute an animal with a mind, if we choose to call it so, as well as a body, adapted for the present state alone; whilst man is formed with an intellect capable of comprehending things unseen, and conceiving of things unknown—of embracing the past and contemplating the future, and, thus constituted and endowed, prepared for a state of immortal existence.

In animals we find a perfect and beautiful adaptation of the means to the end. They are not, as Mr. Karkeek well observes, formed merely for the purposes of man, but to fill up every void of nature with life and enjoyment. This, indeed, is the chief end of their existence. Born for the present, for the present only are



they adapted. They have no perception for the sublime and beautiful—no idea of right and wrong\*. Denied all exercise of religious feeling, they experience no veneration for an unseen being—no aspiration after a future state.

Though not altogether incapacitated for certain improvements, yet these improvements are limited by narrow bounds, beyond which they cannot pass. The individual may be improved, but the advancement of the race is confined. While man is endowed with a mind and an intellect capable, on the one hand, of storing up the wonders of the past, and diving, on the other, into the mysteries of the future—a mind, the limits of whose conception no one can confine, an intellect whose advance no one can stay.

Here, then, do we perceive the great distinction between the human being and the brute; the one is confined to the same limited space, beyond which he has neither the power nor the inclination to advance; the other, however high may be his pursuits on earth, or however dignified his station, still feels, from time to time,

“A pleasing hope—a fond desire—  
A longing after immortality;  
A secret dread and inward horror  
Of falling into nought.”

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[It is with no ordinary degree of pleasure and exultation that we place this paper at the commencement of our Journal for the present month. It presents us with a scientific and rational, and we think, in the main, unanswerable view of the question in dispute between the author and Mr. Karkeek. The Scriptures certainly make no mention of the future state of the brute. There is nothing about him which, as Mr. Spooner justly remarks, can be considered as a claim to immortality. He has lived—generally speaking, he has lived happily—and he has gone to sleep. Yet we cannot persuade ourselves that Mr. Spooner has quite done him justice; and at some future period we may, perhaps, take up the cudgels in his behalf.—Y.]

\* Animals may be taught to do or not to do things by education—by discipline to refrain from stealing or soiling a room; but they have no innate feeling of right and wrong; no conscience—a faculty which, though wonderfully influenced by education, habits, and association, is yet innate in all men, and forms, indeed, one of the strongest lines of demarcation between the human being and the brute.

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## ON GLANDERS IN MAN, THE SOLIPEDE, AND OTHER MAMMIFEROUS ANIMALS.

[Extracted from a Memoir read at the Academy of Sciences, Feb. 10, 1840.]

*By* MM. BRESCHET *and* RAYER.

COMPARATIVE anatomy and physiology not only cast a vivid light on the anatomy and physiology of man, but the study of the diseases of animals serves to dissipate many of the doubts and incertitudes which yet prevail in the pathology of the human being. This path, first indicated by the old Academy of Sciences, and by the Royal Society of Medicine, has been brilliantly pursued by many of the members of the Academy of Science, and especially by Vicq d'Azir. It is not only allowable but necessary to avail ourselves of every source by which we may benefit society in the preservation of the human being from various contagious diseases, not only serious, but almost constantly mortal.

We shall at present confine ourselves chiefly to glanders and rabies. A letter having been addressed by the Minister of War to the Academy of Sciences, demanding the cause of the great frequency of glanders among the horses of the French army, we determined to communicate to you the researches and the experiments which M. Rayer and myself have undertaken, on the contagion of glanders, and the mode of its transmission to the human being. Although these questions are not directly and positively indicated in the demand of the minister of war, they claim, nevertheless, all the interest and all the solicitude of the administrative authorities.

We have not yet completed our researches; but we think that by taking a rapid sketch of the state of science on these grand questions, we may be able to throw some light on a point so important to public health, and in our pursuit of comparative pathology. In a second essay we will state the result of our experimental studies.

GLANDERS, one of the most cruel maladies to which the horse is subject, possesses the fatal property, whether by inoculation or infection, of transmitting to other animals and to the human being. The fact of that transmission, long denied, has acquired, at length, a certitude which may serve as a base for the study of comparative anatomy, and the regulations of the administration with respect to public health.

It was long thought, and is still believed by many veterinarians, that glanders is a particular and exclusive disease of the horse; but recent observations and experiments, many of which are our own,

leave no doubt as to the possibility of transmitting glanders to man, to the dog, to the ox, to the sheep, and to other animals.

The comparative study of glanders in the different species shews that all are not equally apt to contract this disease, and that it is much more frequent in the horse than in any other domesticated animal. In him alone the spontaneous development of the disease has been observed; and among the horse tribe this disease may be propagated by inoculation, by contagion, and by infection.

The spontaneous development of glanders, and its transmission by infection, have not yet been observed in the ruminant; but both the ox and the sheep have been fatally inoculated with the virus. The dog, among the carnivorous animals, is in precisely the same situation. He inhabits with impunity the stables in which there are glandered horses; but he may contract glanders by inoculation with the virus of glanders, and there are strong reasons for believing that it may be developed in him, in consequence of the application of the matter of glanders coming from the horse or the ass, and lodged upon a mucous membrane; and also by living in stables in which many glandered horses are collected. Every individual in which we have seen the development of glanders has by his profession, or his course of study, been in frequent connexion with glandered or farcied horses. They were either grooms, or pupils, or veterinary surgeons.

The spontaneous development of certain diseases, in many animals, and from which others are exempt, except these diseases are communicated to them by contagion, is a very remarkable fact. There are certain morbid poisons which are never spontaneously produced in the human being—such are madness, so frequent in the dog—the malignant pustule often observed among ruminants, and such, in fine, is glanders, the spontaneous development of which is not rare among the solipedes: but, unfortunately, man, under certain conditions, is apt to absorb these morbid poisons, and to experience all their effects, and all their intensity.

This peculiarity is worthy of the attention of pathologists and of naturalists; for if man does not spontaneously breed any of these diseases, he has nothing to do but to keep out of the way of these morbid influences. Fatigue, bad food, the accumulation of a great number of individuals, sound or sick, in a small space—all the conditions analagous to those to which veterinary surgeons generally attribute the spontaneous development of glanders, have never produced it in the human being.

In man, and in the human being, there appear to be certain conditions inherent in his organization which prevent the spontaneous development of glanders. It is so in the ruminants and the carnivora.

It is, on the one part, the spontaneous development of glanders in the solipede, and the facility with which the disease is propagated among these animals, and, on the other part, the less degree of facility with which it is communicated to other species, and to man in particular, which have caused it to be believed, until lately, that glanders was a disease peculiar to the horse, the ass, and the mule.

Another circumstance contributed to the propagation of the error. Comparative pathology, being but little cultivated, the physicians did not search among human beings for a malady of which the type was unknown to them, and the veterinary surgeons, on account of the nature of their studies and their labours, have scarcely had the opportunity to observe the existence of it in man: nevertheless, an unfortunate circumstance seems to indicate that this opportunity should not be suffered quite to pass, for, within less than a year, two veterinary pupils have died of this frightful disease at the School at Alfort, after having dissected some glandered horses.

As to the morbid poison of glanders, and which resides essentially in the matter discharged from the nostrils, a previous remark is to be made. We know that glanders may be either acute or chronic; that is to say, that it may run its course rapidly in the period of a few days, or that it may not arrive at its fatal termination until the expiration of many months, or even years. But in these two forms of the same malady the contagious property of the discharge is far from being the same. Acute glanders is transmitted far more readily than chronic glanders; and even that is transmitted with difficulty separate from the paroxysms or acuteness of character which it from time to time assumes, when the animals that labour under it have worked harder than usual, or in consequence of other causes which influence the progress of the disease. This circumstance—the unequal virulence of the same disease in its acute or chronic form—has its analogy in the syphilis of the human being. We know, in fact, that in a chronic state both the matter of gleet and of chancre are not always transmitted by contact, and that the ichor of old venereal ulcers is highly contagious, while the pus of consecutive ulcers is not contagious at all.

The unequal power of the contagious property of acute and chronic glanders has lately induced many veterinary surgeons to consider these two forms of the same disease as two distinct maladies and this error has not a little contributed to propagate in France, but in France alone, a very serious error, that of the non-contagious nature of glanders.

If a crowd of facts carefully observed have not demonstrated, long ago, the contagion of glanders among the solipedes,—if the

opinion of the non-contagion, too readily adopted by the greater part of the French veterinarians, and propagated among those of the army, has not, at the present day, been abandoned by many of those who refused to admit it when they were young in experience—if, we say, the immense majority of the veterinary surgeons of Germany, of England\*, of Belgium, of Italy, and Spain, do not believe in the contagion of glanders—the fact of the transmission of glanders to the human being, observed in Germany and in England, and described by us at l'Hôpital de la Charité, and l'Hotel Dieu, and by many of our colleagues in the public schools, as Andral, Bouillaud, Husson, and by several of our young friends, as Nonat, Becquarrie, Bouley, &c. cannot leave a moment's doubt on the subject.

To complete this demonstration, we will add, that we have recorded the effect of glanders in the human being, in the horse, and the ass, inoculating them with plain and undoubted glanders. This experiment has been repeated by other persons, and with the same result.

Glanders, however, is not equally transmissible to every species of animal. Among the solipeds, it is much more easily communicated to the ass than the horse, and develops itself with a promptitude and an intensity most remarkable. This has been long well known to experimentalists, who always avail themselves of this animal when they wish to develop acute glanders artificially.

The comparative study of glanders in the different species of animals, and particularly in the solipede and in man, demonstrates that the symptomatic expression of the disease undergoes some modifications in the different patients, which, without preventing the recognition of the identity of the malady, deserve, nevertheless, to be pointed out.

Veterinary surgeons, in order to ascertain the existence or non-existence of glanders in the horse, attend especially to three symptoms,—a discharge from the nostrils more or less abundant, enlargement of the submaxillary lymphatic glands, and ulceration of the mucous membrane of the nasal fossæ. In some cases, however, in the human being, these symptoms have been very obscure, or could with difficulty be said to exist during life. In two cases they were not found at all. At the commencement of the disease, this morbid discharge from the nostrils, on which veterinary surgeons lay so much stress, sometimes does not exist, or does not manifest itself until the disease has already been recognized by

\* These gentlemen are perfectly in error here. There was a time when the non-contagiousness of glanders was advocated by a speculative professor, to the utter ruin of many a young surgeon; but this is gone by, we trust for ever.—Y.

other characters. On account of this difference in the symptoms—the failure of the nasal discharge—the actual existence of glanders was denied in the first case which came under notice. In the horse, the morbid discharge secreted by the mucous membrane of the inflamed nasal fossæ escapes through the part of the nasal sinus which possesses the greatest declivity, namely, by the nostrils: in the human being attacked by acute glanders, it is discharged in whatever posture he may be, and oftenest, perhaps, when he lies horizontally, or on his back. The secretion runs almost continually in a small quantity from his nose, but the greater part of it runs into the gullet, and, being thence expelled with considerable force, that mingled mucus and bloody sputum is seen which is never observed in the horse. On the other hand, when the disease has made a decided impression—when it has produced its peculiar eruption, the enormous difference which exists between the cavity of the nasal fossæ of man and of the horse, and the difference also in the size and construction of the nostrils in the two, causes the essential character of the malady to be always less apparent and less decided in the human being.

As to the character of the nasal eruption, its seat, and the nature of the humour secreted in acute glanders, these things are perfectly identical in man and in the horse. The eruption shews itself not only in the mucous membrane of the septum narium, but also on the turbinated bones, and on the posterior part of the velum palati. Sometimes, but more rarely, in the human being the glanderous eruption extends from the nasal fossæ to the anterior surface of the velum palati and the interior of the mouth. This is comparatively rare in the horse.

As to the enlargements of the submaxillary lymphatic ganglions which often exist in the horse in acute glanders, they are rarely met with in the human being. This existence of the enlargement of the submaxillary ganglions in one, and the absence of that enlargement in the other, had been a source of incertitude and doubt with some veterinary surgeons, who witnessed the first cases of acute glanders in man, observed at Paris: but this fact of the absence of the glandular enlargement, to a greater or less degree, was accounted for by the difference in the connexion and the propinquity between the nasal fossæ and submaxillary glands in man and the same glands in the horse. In fact, in the horse, these glands have a much more direct relation with the lymphatic vessels and glands of the posterior part of the nostrils. We may also comprehend why these ganglions are more frequently affected in the horse when we observe the great extent of glanderous inflammation in the nasal fossæ.

As to the nasal eruption itself, and the ulcerations which follow



it, the identity is most striking; but the eruption in the human being, when it is slight in degree, cannot always be ascertained until after death. It is rare, however, that we meet with this difficulty in the horse, whose nasal fossæ, on account of the largeness of the nostrils, may be so much more easily explored.

In proving the existence of chronic glanders in man, other difficulties present themselves which are not met with in the solipede. Every horse that has a chronic discharge from the nostrils, ulcerations on the septum or on the turbinated bones, a thickening or induration of the mucous membrane, with enlargement of the submaxillary glands, is at once declared to be glandered; but in the human being it is not sufficient to prove the existence of ulceration in the nostrils, or destruction, more or less complete, of the septum, even with engorgement of the submaxillary glands, in order to pronounce that the patient has chronic glanders. We know, in fact, that the nostrils of the human being may be the seat of deep ulceration with fœtid discharge, and engorgement of the lymphatic submaxillary glands, in circumstances in which it is not only impossible to admit of the existence of glanders, but where these lesions evidently belong to another class of disease. Thus, in consequence of inveterate venereal disease, the mucous membrane of the nostrils becomes inflamed and ulcerated, the bones grow carious, and there is a discharge more or less fœtid. There exists at the same time ulcers of the throat, and the submaxillary glands become enlarged. Persons who are subject to scrofula have the nasal fossæ often ulcerated, and becoming the source of the most offensive discharge. Therefore, before we admit that ulceration of the nose, with morbid and fœtid secretion, are of a glanderous nature when observed in the human being, we must first prove that these ulcerations and the enlargement of the glands which accompany them are neither syphilitic nor scrofulous.

If syphilitic or scrofulous ulcerations of the nose may, in the man, simulate to a certain point the chronic glanders of the horse, we know, on the other hand, that true chronic glanders, and recognized the later because it is chronic, has been mistaken for a venereal affection. These chronic, glanderous affections have always been preceded by farcy enlargement and abscess.

In the few cases of chronic glanders that have been observed in the human being, the enlargement of the submaxillary glands has been rarely noted, because this enlargement, to which we attach so much importance in the horse as a proof of chronic glanders, is, in a case of chronic affection of the nostrils in the human subject, indicative rather of the scrofulous and venereal, but not of the glanderous character of the malady. Not only in many instances of well-established cases of chronic glanders in man has this

enlargement not existed at all, but we have often met with syphilitic ozena, accompanied by ulcerations of the throat. Among scrofulous persons these enlargements are even so frequent, that they constitute one of the most ordinary exterior characteristics of the disease. Enlargement of the submaxillary glands, acute or chronic, in the human being, are also indicative of various diseases connected with the lower jaw, inflammation of the portion of skin covered with hair, and ulceration of the mouth or larynx, &c. In fine, enlargement of the submaxillary glands, a symptom of great value, and constant in chronic glanders in the horse, is often wanting in chronic glanders in the human being, and is frequently found in other cases of chronic ulceration—not glanderous—of the nasal fossa and of the throat.

We have seen in man, as well as in the horse, the chancreous eruption in the larynx; but it appears to be more frequent in the human being, if we may judge from what we have observed.

As to the lobular pneumonia which one of us (M. Rayer) stated as one of the lesions of acute farcy-glanders—the union of farcy and glanders—in the human being, its existence as an element of acute farcy-glanders in the horse, after having been strongly contested by many veterinarians, has been at length recognized in so many instances, that there can no longer be any doubt with regard to it. Under this relation the analogy between man and the solipede is complete.

As to the lesions of the integument in acute glanders, if we compare the cases which have been observed in the human being with those that are generally found in the horse, we are struck with their considerable apparent difference. Almost all the cases of acute mange,—with the exception of those which have been related by M. Marchand, of Charenton—have been those of acute farcy-glanders; that is to say, in which a glanderous eruption has been developed, not only in the nostrils and the respiratory passages, but also on the skin, with farcy abscesses in the sub-cutaneous cellular tissue. The appearance, however, of *buttons* on the skin, and of abscesses in the sub-cutaneous, and inter-muscular structure, has been observed in the horse; but the proportion has not been so considerable as in the human being. There has also been this remarkable fact, that in man the eruption shews itself, somewhat indistinctly, on every part of the surface of the body, but most particularly on the face; but in the horse the eruption ordinarily appears most on the parts which are deprived of hair, as on the scrotum and around the mouth\*. Other regions

\* We are translating the description of the French horses, when labouring under farcy and glanders.—EDIT.

may be the seat of the eruption, but more rarely. Also when glanders is transmitted from the horse to the dog by means of inoculation, the scrotum is sometimes attacked by inflammation and gangrene, while other parts are spared. In general, however, acute glanders being considered as easily communicable to other animals, we hasten to destroy those that are infected, and before the disease can have passed through all its stages. At all times, however, it is the fact, that the glanderous eruption is less frequent on the skin of the horse than of that of the human being.

The different structure of the skin in man and in the horse seem to explain to a certain degree the difference which is observable in the frequency and extent of the glanderous cutaneous eruption. It even appears, on studying comparatively the febrile and eruptive maladies of man and the mammiferous animals, that the collection of the roots of the hair on the tissue of the skin is an obstacle to the development of these eruptions. Thus, not only the glanderous eruption of the horse shews itself especially on his muzzle and scrotum, but it is equally on the parts deprived of or little provided with hair—on the lips, the udder, and in the interinguinal space—that the aphthous inflammation of cattle is principally found. Also the vaccine disease, analogous to the variola of the human being, is seen on the udder and around the mouth. The eruption also of the *clavéau* and *charbon* among sheep, shews itself principally in parts deprived of wool.

In the horse attacked by acute farcy-glanders, the cellular tissue, and the lymphatic vessels which permeate it, become inflamed, and suppurate as in the human being. In the horse, as in man, attacked by farcy-glanders, filtrations of pus and dépôts of plastic lymph have been found in the interstices of the muscular fasciæ; but the cellular tissue of the horse presents more rarely than that of man the multiplied, voluminous and extensive abscesses which we have observed in the farcy-glanders of the human being. This is to be accounted for by the less aptitude in the cellular tissue of the horse—an unequal aptitude, and much more remarkable in other species of animals, in which it is difficult to produce any supuration, as in birds.

In man, as in the horse, we have often observed in farcy-glanders little dépôts of pus between the periosteum and the bones of the skull. We have, also, seen these bones attacked by caries. These cases, however, are of rare occurrence, and have been denied by some surgeons. As to the relative frequency of these changes in the bone in man and the solipede, it is not possible to speak with certainty, on account of the want of sufficient comparative researches; yet the study of them is a matter of very consi-

derable importance. It is, in truth, far more interesting than they who have not thought seriously of the case imagine. It is an undeniable fact, that many medical men, not knowing that similar lesions have been observed in glanders, have not scrupled to attribute certain changes of the bone to the caries of the venereal disease, when there has not existed a single other concomitant of syphilis, and when the proof of venereal affection could never be furnished. The simple fact, that certain lesions of the bone, recognized as glanderous in the horse, have been attributed to syphilis by some human surgeons, should be deemed sufficient to establish the propriety of a parallel and comparative study of the diseases of men and animals.

There have been observed in man, as in the solipede, during glanders coupled with farcy, an inflammation of the veins, and of the lymphatic vessels and glands, nearly in the same proportion.

The lesions of the digestive apparatus are very slight both in the human being and in the horse, if we except those of the liver, and particularly of the spleen, in which spots of induration and depôts of purulent matter are frequently found.

These abscesses or depôts are occasionally found in the kidneys, both of the human being and the horse.

In fine, all the lesions observed in acute and chronic glanders in the horse have attended the same diseases in the human being. The differences which we have indicated are, in the human being, less nasal discharge—sometimes the appearance of the natural secretion—greater frequency of pustular and gangrenous eruption of the skin—a slight enlargement, or none at all of the submaxillary glands, and a difference of morbid structure in the parts affected to a greater or less degree.

The diagnosis of acute glanders does not present more difficulty or incertitude in the human being than in the solipede. At a former period, when the existence of this malady was not suspected by medical men, and when they were not in the habit of examining the nasal fossæ after death, acute glanders was often confounded with malignant pustule, or, rather, they designated it under the name *a charbonous* affection with an anomalous eruption: but acute glanders differs from the malignant pustule in a crowd of particulars. In glanders, the constitutional symptoms precede the eruption of the skin: in the malignant pustule the charbonous affection is primitive. In the latter, we observed neither the multiplied farcy abscesses nor the glanderous and characteristic eruption in the nostrils. Acute glanders in the human being is, perhaps, of all eruptive fevers, that of which the diagnosis is most easy; and that is now so certain, that there has not been an error

of diagnosis with regard to one of the fifteen patients that have so rapidly succeeded to each other.

In man, the abscesses multiply, and a pustular and gangrenous eruption of the skin are sometimes the first positive signs of a glanderous infection; and they are well characterized before the eruption of the nasal fossæ and the discharge from the nose can be affirmed. In the horse, on the contrary, the certainty of the diagnosis depends, most of all, on the existence of the nasal discharge, and of the pustular and gangrenous eruption in the nasal fossæ—an eruption easy to be perceived on the nasal septum, and slightly on enlarging the opening of the nostrils.

The diagnosis of chronic glanders is much more easy in the horse than in man. In fact, separate from the small number of cases in which a foreign body has been introduced accidentally into the nasal fossæ, or a cancerous degeneracy of the same parts, causes an habitual discharge from the nostrils, every case of chronic nasal discharge, with enlargement of the glands, belongs to chronic glanders. In such cases, the veterinary surgeon has not, like the practitioner of human medicine, to inquire whether the ulcerations are not rather syphilitic, or scrofulous, than glanderous.

The veterinary surgeons and the medical men are, to the present day, completely at a loss as to the treatment of glanders. As to the solipede, glanders in its acute and its chronic state is incurable in an immense majority of cases; and, in man, it is always fatal. That which is of most importance in the present state of science is to prevent the development of glanders in the solipede, by removing every agent that can possibly contribute to its growth, or which can favour its transmission either by infection or contagion. That which is of principal importance is, no longer to propagate any doubt as to the contagious property of the disease—a contagion which is too frequently proved by the ravages which glanders ordinarily makes among horses of the same establishment, when one or more already glandered are introduced there; and, also, by the ravages of this complaint in the barracks of the French army, where the sanitary regulations are carelessly applied; and, still more plainly, by the transmission of glanders from the horse to the human being—which is confirmed, if it wanted confirmation—by the confessions of the individuals who have been attacked by this frightful disease; and still more confirmed—if confirmation were wanted—by the development of glanders in the horse and the ass when they are inoculated with the virus of glanders, whether it proceeds from the horse or from the human being. A contagion, in fine, which has been proved by so many facts, and by so many experiments and testimonies, that the moment is come, and the opportunity now

presents itself, of putting an end to all incertitude about the matter, and all the irresolution of the administration, which cannot be prolonged without being prejudicial to the interests of the army, and the safety and health of the people generally.

*Rec. de Vét. Méd., March 1840.*

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We have great pleasure in inserting this joint production of MM. Breschet and Rayer. They stand first among the French medical men for the attention which they have paid to this dreadful disease, and they are nobly leading the way to that correct view of its cause and its propagation, the abandonment of which by so many of the continental pathologists we have never been able to comprehend.

Some of our readers will perhaps think that we have preserved rather too much of the pathologico-anatomical narration of these gentlemen, but such will not be the case with the majority of them. Circumstances of a very painful nature may render us most anxious to be perfectly masters of every symptom which this horrible disease exhibits in the human being and the brute, and its strangely peculiar complications. We likewise owe something to these gentlemen for the kind and high consideration which they yield to the veterinary surgeon; while some talented and eminent men of the medical profession in our own country do not deem us worthy to constitute even a minority at that meeting where we think some of us have a right to appear, and where we should be proudest of all to be seen,—the Examiners' Board.

While our translation of this memoir was at the press, we saw in the London Medical Gazette an Essay on Farcy and Glanders by our talented and valued friend and co-editor, Mr. Percivall. It is like his other productions. It places the subject on which he is treating in the plainest and most interesting point of view. It gives us the theory of farcy and glanders as it will, ere long, be received by the continental as well as the English veterinarian. There is considerable difference of opinion between him and the French pathologist; but on many an important point it is interesting to observe how closely they approximate to each other.

Y.

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## FARCY AND GLANDERS.

*To the Editor of the Medical Gazette.*

Sir,—THE enclosed remarks, prompted by the perusal of Mr. Brush's cases, are, should you think them worth notice, quite at your service.

Your obedient servant,

WILL. PERCIVALL, M.R.C.S.

Vet. Surgeon First Life Guards.

Hyde Park Barracks,  
May 4, 1840.

So long, so great a debtor, as veterinary science is to human medicine, it would be the height of ingratitude—to say nothing about the philanthropy of the case—in her to withhold any aid, be that ever so slight, she deemed might prove serviceable to her scientific sister. The subjects, farcy and glanders, have occupied the most serious attention of veterinarians from even the commencement of their art. In a former age, Lafosse, the celebrated French veterinarian, pursued his inquiry into the nature of these diseases with an ardour which, as he went on, ripened into the warmest zeal, from the circumstance of his having imagined that he had discovered a remedy for this opprobrium of his art. His views, however, turned out fallacious; being grounded upon the supposition that he had to combat with but a *local* affection, while in reality it was a *constitutional* one. Sainbel, the first Professor appointed at our own Veterinary College, also turned his attention to these subjects; but his career proved too short to enable him to advance them any great deal. In his successor's (Professor Coleman) time, the important facts became developed, that farcy and glanders were the same disease, affecting different parts or tissues; that inoculation with the matter of farcy would produce glanders, and *vice versâ*; that farcy had for its seat the skin—glanders the Schneiderian membrane; that both consisted in inflammation and suppuration of the superficial order of lymphatics; and that the chain of little abscesses, followed by exulcerations, was owing to the circumstance of the valves of the absorbent vessels (apparently from their comparatively low degree of organization) not taking on the ulcerative action. That both farcy and glanders are contagious diseases admits no longer of doubt; but that either is communicable, except through direct contact, or inoculation of some sort, we have no facts to prove. Some years ago, these diseases among horses were extremely prevalent. Our regiments of cavalry evinced this, as well as other horse-establishments, and, indeed, the country at large. But, now-a-days, such is not the case. A better plan of ventilation and training has done much to prevent,

and improvement in veterinary medicine has done much to cure, the disease: for be it known, although we do not arrogate the possession of any specific, there are forms and stages in which the disease, in many cases, is curable.

In reference to the cases published by Mr. Brush, there cannot be a question about the ill-fated nurse being contaminated by the knacker. The abrasions upon her hand imbibed the poison, and the arm of that hand, and the same side of her body, became the seat of disease. Had not contact, nay even inoculation, taken place, I should say the poor nurse would have escaped. Veterinary surgeons have no notion of *inhaling* infection from glandered or farcied horses; their only fear is, that some sore or cut upon their hands may meet with the discharge from their patient's nose, or some one of his farcy ulcers. It should therefore be—I take the liberty to recommend it in our hospitals—an affair of extreme caution in those cases, that those in attendance should not subject themselves to the possibility of becoming inoculated. I believe they may breathe the same atmosphere with impunity.

At the commencement of either farcy or glanders, but of the former in particular, we veterinarians find depletive remedies most useful. When a limb is much inflamed and tumefied, and chorded in the course of the absorbents, and sensitively tender to pressure, we are desirous to draw blood and to purge briskly; and, in addition, we are often compelled to do what seems irreconcilable with this inflammatory condition of limb, which is, to force the animal to make use of it by walking exercise. Were it not for the exercise, which is repeated once, sometimes twice a-day, experience has taught us, that the tumefaction, and with it irritation and fever, would augment to a degree even to threaten the animal's life.

After we have subdued the inflammatory action and swelling, so that the farcied parts appear to have become permanently infiltrated and comparatively without feeling, or callous, we find most benefit from a combination of tonic with diuretic medicine. The mineral tonics—the sulphates of copper and iron—have proved very serviceable. And, last of all, change of air and living, and turning out to grass in the summer season, have often completed the cure.

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### ABOUT ASKING QUESTIONS.

*By J. STEWART, Esq., late Professor at the Andersonian University of Glasgow.*

IT has occurred to me that we might assist each other very considerably if we were to form ourselves into a catechising society. A little reflection will, I think, convince any man that this sugges-

tion is not so frivolous as at first sight it may appear. In our profession knowledge is of much more consequence than manual dexterity; and as knowledge is easily handed from one to others, we ought to improve very rapidly. If every practitioner could see and describe things just as they are, we should very soon know all that can be known. No individual, however long his life or favourable his opportunities, can possibly see all things; but each has seen so much, that, if all could be combined, our knowledge would be very much augmented, and in time complete. Every one, too, is in possession of facts which he has little use for, but which in other circumstances would be important. The simplest mode of bringing such facts to light is to seek them.

I would therefore propose a system of catechising, by which there would be an easy and simple exchange of knowledge. Hitherto it has been the custom to write formal articles of several pages, and to *give* more than to seek information. This is one good way of diffusing knowledge, but there is no reason why it should be the only way. I suggest the catechising mode as a useful addition to it. Many will be willing to write an answer who would never think of writing an essay or a history.

I have more questions to ask than I care to mention just now. The following may serve as examples:—

Are broken-winded mares barren?

Does stringhalt ever make a horse less fit for work than he would be without it?

What evils attend the loss of a jugular vein?

How long may a crib-biter live?

Has grogginess of two months' standing ever been perfectly cured?

How soon may specific ophthalmia produce visible cataract?

What is the use of nosology?

## CASES OF EXTENSIVE OR TOTAL DESCENT OF THE OMENTUM.

*By Mr. W. BAKER, Sudbury.*

SHOULD you consider the following case worthy of insertion in your valuable periodical, it is at your service. I am aware that cases are met with in practice where a small portion of omentum is obliged to be removed, and which I have done in castration; but in this instance the whole of that membrane, or as much of it, I feel convinced, as could be drawn out, was taken away.

A two-year colt, the property of Mr. Thomas Meekings, was attacked, on the 10th Sept. 1837, by a short-horned bull, that beat

the colt down, and inflicted many wounds with its horns on its near side, from the shoulder to the thigh; and among the rest was one near the cartilages of the ribs, from which, upon my arrival, I found the omentum was hanging more than two feet in length, dirty and torn, with every appearance of its having been trodden upon and drawn out to its fullest extent. I immediately cut off the whole close to the wound, and with my finger put back that portion that was within it, and closed the wound by sutures. It healed in a fortnight with but a slight suppuration, leaving a hernia about the size of the back of the hand an inch above the level. The colt has since been at work two years, and suffered no inconvenience from its loss. Nothing occurred more than ordinary in the treatment of this case, except that, at the end of a few days, there was a considerable discharge of pus from the other wounds, and I thought it advisable to administer some tonic medicine.

The following somewhat singular case occurred on the 31st of the last month, March. I was requested to go immediately to Mr. Norden's, at Assington, to assist a mare that was foaling. Upon my arrival, at twelve o'clock at noon, I found that the mare, according to their calculation, had not gone her time by a fortnight, and that the usual premonitory symptoms had not been shewn. She was found to be in great pain at six in the morning, and had been straining violently at intervals. I first proceeded to examine the uterus, the mouth of which was perfectly closed. I could feel something hard, and about the size of a double fist, pressing upon the vagina, which I considered to be dung in the rectum, and accordingly proceeded to remove it; but was surprised, upon introducing my hand, to find it empty as far as I could reach. I could still, however, feel the same substance below or a little sideways of the rectum. From the manner of its yielding under pressure I at first concluded that it was pus. Upon carefully examining and considering the case, I thought it might be a fold of the intestine forced by some means into that situation. I first tried pressure by the rectum, but could not move it. I then placed the palm of my hand under it in the vagina, raising it at the same time as I pressed it back, when it was removed easily, and in two minutes she passed a great deal of flatus. She was much distended previously, but in ten minutes had voided dung four times, and was quite relieved from pain. My only treatment was to give, as a clyster, two quarts of warm water. After stopping with her more than half an hour, during which time she dunged freely, I gave  $\text{ziii}$  opii dissolved in a pint and a half of water as a clyster, and  $\text{℥iv}$  ol. lini by the mouth, and left her with directions for mash diet, &c. and to be kept quiet.

The next day, the 1st instant, quite well: since that time I have not heard of or seen her.

## ON THE DIVISION OF THE OS UTERI IN DIFFICULT PARTURITION IN THE COW.

*By Mr. JAMES HORSBURGH, V.S., Dalkeith.*

I WAS glad to see in the No. of THE VETERINARIAN for April, the Cæsarean operation brought forward; but I fear that you will hear of very few successful cases, for this simple reason—it is never attempted until all other means that are commonly tried have failed, and the animal is totally exhausted. In a considerable cattle practice, I have only performed it once, and unsuccessfully; but it was after all sorts of hooks and ropes, even to the blacksmith's largest forge tongs, aided by some half dozen strong country ploughmen, and all the female tribe that could be mustered on the farm, had done their best to extract the fœtus. Since that time I have never had occasion to try it, having successfully performed the operation of dividing the stricture at the mouth of the os uteri, and, in all cases, I have succeeded in extracting the calf.

The scirrhus degeneracy of the neck of the uterus, mentioned in page 127, and which was supposed to have rendered that operation necessary, is not uncommon here, and numbers of cows are yearly lost from it. It is called by the country people *lyreing*\*. It seems to be a diseased state of the os uteri, which, during gestation, sometimes assumes a cartilaginous hardness. At the period of parturition nature is unable to dilate the opening sufficiently; and unless proper assistance can be rendered, the animal is lost. This can only be done successfully by the division of that stricture, of a few cases of which I beg to send you an account.

*Jan. 20th, 1836.*—I was called to attend a cow belonging to Mr. Hunten, of Outterstone. She had been very ill two days. I found her unable to rise, and viciously turning her head, and endeavouring to strike every one that came near. The pains had ceased. I found that one foot had passed the os uteri, and was informed that it had made no progress during the time she had been ill. I had some difficulty in returning it, and found I could only introduce my four fingers through the opening. I lost a considerable time in the vain hope of dilating the passage with the hand; but not the least impression could be made on the hardened substance. I then determined, at whatever risk, to divide the stricture. For this purpose I used a small short and sharp-pointed bistoury, which I introduced (the point guarded by the fore-finger, and firmly held between the finger and thumb) as far as I could pass it into the uterus; and then, by turning the edge into the

\* Lyre, or lycer, a name for any cartilaginous substance.

cutting position, I made an incision through part of the stricture, laterally, by drawing the bistoury outwards. This I repeated twice, when I found I had considerably enlarged the opening; I then turned the point of the instrument upwards, and divided the other side, and could now with ease introduce my hand. There was little hemorrhage. I stopped until it was subdued, and in the mean time gave ʒss of ergot of rye in a bottle of gruel. This soon produced the desired effect. I then easily dilated the passage, and had very little trouble in producing a fine calf alive. I removed the placenta in about fifteen minutes afterwards, administered some gruel, ordered sulph. mag. ʒj to be given four hours after, and left her. In two days afterwards the cow got up, and was quite well in ten days. She produced a calf next year without assistance. A few days afterwards I operated on one belonging to the Earl of Dalhousie with the same success.

*May 20th, 1836.*—A fine cow, belonging to Wm. Gray, Esq. of Dalhousie Mains, had been ill a day and a half, without any appearance of relief, and, being many days past her time, I was sent for. I found the os uteri so close and hard that I could only introduce my finger. I tried the effect of the ergot of rye: the pains were strong, but, after waiting about three hours, no difference was perceptible in the uterus. I then operated upon her *standing*, which is the best way. The passage was dilated; but I had great difficulty in extracting a large and swollen calf, which had been dead for some time (the hair and hoofs coming off). Another pretty little lively creature then came without difficulty. Treatment as before. The cow did well.

*March 30th, 1837.*—A cow, belonging to Mr. Hamilton, Stobhill Green, had been very ill three days. On examination I could not find any opening. I immediately operated, and extracted a fine calf alive. In this case the vagina was ruptured, and I could pass my hand through the opening at the entrance to the uterus. I was much afraid of the result, and bled her on the next day; I also gave sulph. mag. ʒiiss., and applied hot fomentations to the back. In a few days she was quite recovered.

*April 11th.*—Another cow at the same place was operated upon in the same way: she died of puerperal fever on the fourth day.

*May 3d, 1837.*—A cow, belonging to Mr. George Pringle, of Kirklandhill, Galla Water, had been ill four days. I was sent for, and operated on her in the same way: she died of inflammation three days after the operation: the calf was dead before the operation.

*June 15th, 1839.*—A cow, belonging to J. Brown, cow-feeder here, was operated on. She stood during the operation. The calf was extracted alive, and the cow did well.



I have, as you see, now exceeded the limits of my sheet ; but I hope you will excuse me, as I wish to shew the practicability of the operation, by sending the result of the cases in which I have been engaged. Two of my patients died, the others were saved, although it is sufficiently plain that they also must have been lost had no assistance been rendered.

I have known some of our country cow-doctors try the operation, and have heard of cows dying under their hands from excessive loss of blood. In all the cases in which I have operated, I have had little hemorrhage. I always make two incisions through the *os uteri*, one on each side, thereby avoiding the risk of wounding the bladder, which is often found distended.

I should be glad to see, if possible, these remarks in the next number of THE VETERINARIAN, this being the time when parturition among cows is frequent ; and some practitioner may have an opportunity of putting my operation to the test.

## INVERSION AND RUPTURE OF THE UTERUS OF A COW, WITH PROTRUSION OF THE SMALL INTESTINES.

*By Mr. H. HIGGINSON, V.S., Audlem.*

ON the 5th of April last, 1840, at 11 P.M., I was sent for in great haste to see a cow that had calved about six o'clock on the same evening. On my arrival, I found that the whole of the uterus had protruded through the vulva, and the fundus of that viscus was so lacerated as to admit a large portion of the small intestine through the rent.

It appeared that a farmer in the neighbourhood who was considered expert at "putting up cows' reeds" had been sent for, and, having failed in this instance to accomplish his task (owing, I was told, to the cow straining violently), he gave up the case, and left her in the pitiable state in which I found her.

I, however, procured plenty of assistants, and we raised her hinder parts, and bedded them well up, and, after having cleaned the protruded parts with some weak spirit and water, I proceeded to return these frightful herniæ, which I effected without much difficulty, and a truss was applied to prevent their return.

I then examined the state of her pulse, which beat 95 per minute, and was very feeble, for she had lost several quarts of blood, when the placenta was detached from the uterus. I administered magnes. sulph. ℥viii, ol. ricini ℥vi, tinct. opii et sp. æth.

nit. āā ʒiss in gruel. I also put some clothing about her loins, and ordered her to be kept quiet until I saw her again in the morning.

6th, 7 A.M.—Pulse 90, stronger, and the legs, horns, and ears, warm. Repeat medicine, without the magnes. sulph., and give warm gruel every four hours.

8 P.M.—Pulse 86, increased in strength. The medicine has operated; but she has not been seen to void any urine. Give digit. pulv. ʒiss, antim. potass. tart. ʒi, sp. æth. nitrici et tinct. opii āā ʒi, and continue gruel.

7th, 9 A.M.—Pulse 82. She has staled during the night. Repeat the medicine, and give bran mash and gruel.

8 P.M.—Pulse 80. She has eaten two mashes, and drunk some gruel: she dungs and stales regularly. Repeat the medicine without the tinct. opii.

8th, 10 A.M.—She ruminates, and is much better. Give antim. potass. tart. ʒj, potass. nitrat. ʒiij, pulv. gentian ʒij twice a-day.

11th.—Better. Discontinue the medicine.

14th.—Convalescent.

The cow was in low condition when she calved, and this was her eleventh or twelfth time of calving. The owner informed me, to use his own words, that she “threw her reed down” two years ago, and that he had had four cows which had their reeds torn in a similar way, and not one of which recovered; but in all these cases the rent was stitched up, and the sutures would produce a degree of irritation often sufficient to cause death. In all the cases I have met with they have not been used, for I have always found that the divided edges of the uterus have been brought together by the natural contraction of that viscus.

## SINGULAR CASE OF LACERATION OF THE RECTUM ATTENDED WITH STRANGURY.

*By Mr. J. B. MINIKEN, V.S., Wexford.*

A VALUABLE mare, the property of a respectable farmer, residing in Glin, county Wexford, was brought to my infirmary on the 21st of May, 1839. The owner informed me that she had been suffering extreme pain during the last four-and-twenty hours, and neither staled or passed any fæces, although continually endeavouring to do so. He could not account in any way for it.

*Symptoms.*—I perceived the anus, perinæum, and vulva much swollen and inflamed; the anus in particular was greatly protuber-

ant; the pulse hard and quick; the animal much depressed, frequently moaning; hind extremities very cold, and the eyes wild and glassy.

On introducing my hand, per rectum, I drew out large particles of coagulated blood. I then discovered that the rectum was slightly ruptured in more than one place; the fæces were, near the termination of the colon, in large round masses; the heat and inflammation were most intense; the bladder was greatly distended, and its parietes had lost all power of contracting, and when I pressed on it the urine was ejected in small portions, while, all the time, the mare was making great exertions to stale.

I judged that she must have met with some accident, and on closely interrogating the servant he confessed that, three days previously, he brought the mare to a horse, and the groom being drunk, passed the penis up the wrong passage. It was now quite clear how the rectum was ruptured.

*Treatment.*—I used the catheter with good effect, and extracted nearly half a pailful of urine, which gave the poor animal instant relief. I abstracted three quarts of blood, and thought it advisable to administer a draught of croton oil, twenty drops, in a pint of linseed oil. I gave an enema, and removed a large quantity of fæces, and ordered the perinæum and across the loins to be well fomented. She partook greedily of a slop bran mash.

*22d.*—The medicine operated well. I placed a large mustard poultice over the loins, and used the catheter. She seemed more lively.

*23d.*—The heat and inflammation of the rectum slightly subsided. I passed, occasionally, a cooling lotion of a bland nature per anum, and gave a ball containing opii. 3j, Barbadoes aloes ʒijj. The pulse was more regular.

*24th.*—The pulse increased. She is very uneasy, and will take no food. Bleed to two quarts. I was again obliged to use the catheter. Let there be frequent fomentations.

*25th.*—Symptoms of a still more favourable character. Gave opium ʒss, aloes ʒiii. Still used the catheter.

We continued in this way, with occasional and sometimes serious changes, to the 2d of June, when I perceived her void her urine quite freely; the rectum was healing, and all seemed favourable. During the whole of this time I continued giving opium and aloes, in such doses as I thought necessary.

She continued improving up to June the 11th, when I discharged her. I saw the owner a few days ago, and he informed me that the mare was perfectly well.

## A CASE OF ŒSOPHAGOTOMY ON A COW.

*By Mr. EDWARD DYCKER, V.S., Dublin.*

VARIOUS means are had recourse to for the extraction of foreign bodies obstructing the œsophagus, but, among them, that of incision, as a last resource, has seldom been adopted : I therefore send for your valuable Periodical an account of the particulars of a case upon which I operated last week.

A cow belonging to a farmer in Slateford, was choaked by a potatoe on the 16th instant, about two o'clock, P.M. An old pupil of Professor Dick's was soon in attendance, who tried the probang and screw stilette, for the purpose of either forcing the obstruction on into the paunch or extracting it by the mouth, but without success.

Professor Dick was sent for ; but he being engaged, requested me to attend. On my arrival, which was about six P.M., I found the cow in a state of suffocation, and blood flowing from the nose and mouth, from the attempts to extract the potatoe. On examination, by introducing my hand into the mouth through a balling-iron, I could feel the source of obstruction, which was a potatoe situated at the commencement of the œsophagus. I endeavoured to extract it with my hand and a screw, but could not succeed, on account of the contraction of the muscular coat, which was great, from the spherical form of the obstructing body. I, therefore, cast her on her right side, and making an incision three inches in length between the sterno-maxillaris and the jugular vein, a little below its bifurcation, I separated the cellular membrane with my finger until I felt the carotid artery. I pushed aside this vessel, and the nerves that belonged to it ; and then, cutting down upon the potatoe and introducing a corkscrew into it, I abstracted it.

I now sewed up the external wound, and inserted a large canula into the paunch, for the pupose of supplying her with nutriment in the form of gruel. The paunch had been previously punctured, to allow of the escape of the gas that had been extricated.

I did not think it advisable to administer any thing by the mouth, except cold water, which I considered would act in a two-fold manner ; namely, that of allaying thirst and abating the inflammation in the wound.

Since the operation she has evinced little febrile action. I saw her this morning, and the wound in the œsophagus seems closed, as the water she takes does not pass out through it. The external wound was healthy, and she is going on in a favourable manner.

The only instances I can call to mind of the operation being suc-

cessful are those performed by Professor Dick upon a horse ; by Mr. Cheetham, also on a horse ; and by Mr. W. Vine, of Horse-bridge, on a cow.

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[The conducting of this operation reflects much credit on Mr. Dycer ; but œsophagotomy is not an operation of such rare occurrence as Mr. D. imagines. The writer of these observations claims two, and each of them successful attempts\*. In his communications with his professional brethren, he thinks that he has met with a dozen more ; and a very considerable number are recorded in the records of our foreign brethren. We say not this in disparagement of Mr. Dycer, but in justification of those who have done our profession some service.—Y.]

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## DISEASES OF THE AIR-PASSAGES OF HORSES.

*By Mr. PRITCHARD, V.S., Wolverhampton.*

[Continued from p. 345.]

BRONCHITIS, in its asthenic form, is frequently consecutive of glanders, strangles, and epizootic catarrh. These diseases are common states of complication, in which asthenic bronchitis presents itself in practice. But few cases of glanders running their course in a rapid and destructive procession, terminating fatally, are unaccompanied by bronchial disease of the asthenic kind.

*Acute glanders*, as it is commonly designated, is a disease truly asthenic in character. There is debility of the functions of the circulating systems and fluids, in the arterial and venous, in the lymphatic and absorbent ; in the assimilating, digestive, and secreting, as well as the respiratory function. There is debility of the membranous, muscular, and osseous tissues ; there is acute and complicated debility ; and, although apparently absurd, there are manifestations of great depression of vital power and resistance, co-existent with morbidly-excited vascular action. There is debility of the whole frame, originating in the chief factors of life, viz., the ganglial and vascular systems.

Among the several and particular tissues which suffer these effects of debility, rank first in gradation the mucous membranes. Their functions are retarded ; there is diminished secretion or imperfect excretion of mucus ; or it is increased in quantity, from relaxation and loss of tone of the vessels ; or vitiated from other

\* VETERINARIAN, vol. i.

circumstances. As debility advances, whether of the mucous membranes or of the frame in general, their vital cohesion is lessened; their vessels are deprived of the requisite support; and softening, asthenic ulceration, and hæmorrhage from their surface, are the consequences.

In many cases of acute glanders which came under my observation in 1826 and 1827, a period remarkable for the prevalence of glanders and the destruction of a vast number of horses by it, such were the early manifestations of inflammatory action in the respiratory muco-bronchial surfaces, that acute glanders was apparently produced by or commenced with bronchitis. On dissection the bronchial membrane presented softening, ulceration, and gangrenous sloughs.

Strangles is frequently complicated with bronchitis in its asthenic form. When the vital energies of the frame are adequate to the full performance of all the functions of the associated organs, the former disease runs its course comparatively mildly, and terminates favourably; but, when the above functions are depressed by causes which lower the vital actions in a general and severe manner, the disease presents a varied and different train of phenomena, and consecutive lesions are developed in different and distant situations from the original seat of action.

In asthenic disease, the primary inflammation of the membranous surface, or of the cellular tissue is disposed to extend in every direction, without any interval of space; but it may advance to remote parts, and the interval of space present no manifest alteration. This is illustrated by several forms of inflammation of the cellular tissue, and of the serous and mucous membranes. When the powers of resistance are weak, and the extension of the disease is continuous, the fluids effused from the parts primarily inflamed have acted as irritants to the healthy structures with which they have come in contact; and the greater number of the complications presented during febrile diseases are produced either by the state of the fluids secreted, or the morbid condition of the blood, the vascular system being excited by their impressions to increased action, wanting both of power and healthy tone. At the same time the organic influence is very susceptible of the impressions made by the morbid blood and altered fluids, and becomes extremely depressed, rendering the tissues that come into contact with the diseased secretions unable to resist by their own healthy secretions their morbid impressions, this diseased influence being soon succeeded by asthenic inflammation.

*Epizootic Catarrhal Fever, or Influenza.*—This latter term has become of general use to express the existence of this form of fever, under the impression that it is the product of a peculiar or specific



influence. Ehrmann calls it *synochus catarrhalis*, catarrhal fever of the mixed kind, which, in my opinion, is descriptive of the real nature of the disease. Medical men in the other profession commonly speak of it as epidemic catarrh, or the catarrhal epidemic; and some veterinary surgeons, and veterinary authors too, have used the same term, although it is exclusively referrible to the human subject.

But enough of this. *Catarrhal Fever* in the horse is one of the frequent complications with asthenic bronchitis; indeed, it is one of its most general associates. The ready and easy procession, by extension of the inflammatory action over the mucous surface from the nasal passages throughout the trachea and bronchia to the minutest subdivisions of the latter, must be apparent to every one in the profession. When the mucous surface is inflamed, the sub-mucous cellular tissue is generally more or less implicated in the morbid action, and the adjacent structures are frequently involved at the same time; the consequences and terminations of which are chiefly depending upon the vital power and state of vascular action. When the disease terminates favourably, it is by change to the sthenic state: thus it is indispensable to restoration of the animal to health that the asthenic inflammation should change to the true or sthenic form.

The mucous membrane, when asthenically inflamed, secretes a large quantity of a puriform fluid, frequently discoloured by the commixture of a portion of blood, and very often of a fœtid smell, depending upon the state of vital influence and resistance of the tissues. The membranous tissue frequently undergoes softening, followed by a loss of substance, and ulceration succeeds. The discharge becomes exceedingly offensive, and discoloured; the prostration of strength rapidly increases; the vital cohesion of the tissues diminishes; absorption of the morbid matter into the circulation takes place; depositions of pus in circumscribed chambers of the cellular tissue, weak and yielding in their walls, numerous form, superficially or deep-seated, varying in extent from the size of a pea to that of an egg, an orange, or a cricket-ball. Sero-lymphatic accumulations in the cellular areolæ proceed in all the pendent parts of the body, enlarging the extremities, the muzzle, and face, and the under surface of the abdomen and prepuce, to an extreme size. The nostrils and bronchi are nearly closed by accumulation of fœtid sputa, rendering the respiration difficult and roaring, and the blood is imperfectly changed in the lungs.

Depression is attendant upon vital and structural impairment. Progressive and rapid changes of the sensible properties of the circulating fluid and the various tissues, in the vital cohesion of the one and in the crisis of the other, takes place, and, at length, the

co-operation between life and structure ceases to exist, and, previously to death, these changes are frequently very conspicuous.

When the bond of union between vital power and structure is dissolved, a kind of excitement accompanies the change in this material relationship necessarily morbid, a species of excitement dissimilar to that which is associated with healthy and unchanged condition of the living structure. The excitement above alluded to is frequently manifested in one or other of the symptoms or organs, attended by a proportionate depression of the other vital influence of the frame; and, whether it be primarily or secondarily, either of the nervous or vascular systems, a great degree of depravation in the vital constituents of the body, and extreme exhaustion, are the consequences. This vitiation of the constituents of life is seen generally in the last stages of epizootic and adynamic fevers.

This special excitement may arise from a particular exciting cause of which it is the effect, and, while it produces this kind of irritation, may otherwise injuriously operate upon the vascular and organic nervous systems; or it may be consecutive of depression, arising as the effect of reaction brought about by changes in the circulating fluids from the absorption of hurtful matters or impeded excretion of morbid principles: but, whichever may be the case, one fact is manifest,—there is a progressive deterioration. The functions of secretion and excretion are acted upon by the morbid conditions of vital power, and the circulating fluids, together with the living solids, are consecutively vitiated. The vascular system is excited by the vitiated state of the fluids in circulation, so that changes in the one reciprocate upon the other, until the bond of union between life and the structures is no longer maintained; unless exhaustion of the vascular action, which had been caused by the morbid and exciting quality of the fluids circulated in the vessels, together with its effects on the secreting and excreting organs, should occur, and thus a balance of vital influence be obtained in their favour. Then a new action would commence, and their excreting and secreting functions would be resumed, the morbid elements eliminated from the system, followed by a gradual restoration of the healthy conditions of the animal.

There is another complication of bronchitis which I have not yet noticed; and my readers will pardon my digression from the usual rule of the schools in commencing these papers without the derivation of the term applied to the disease in question, and proceeding through causes, symptoms, progress, &c. &c. to the terminations and treatment; my intention being that of essaying a description of the diseases of the air-passages of the horse in some of their most important forms.

*Bronchitis* is an invariable complication with *broken-wind*. I am of opinion that the latter is the consequence of the former. The causes of *broken-wind* have been sought where the effects could only be found,—in the anatomical characters of the disease. The remote causes, however, will be more rapidly traced to the muco-digestive surface; to damaged food, hay and oats in particular, and an injudicious administering of it, as the ordinary exciting causes. The mucous surfaces of the intestinal tube are first irritated, their organic actions altered, and the morbid impressions propagated to other related organs in a greater or less degree. To this succeeds absorption of morbid elements into the circulating fluids, exciting, depressing, or altering the vital actions through the vascular system. By these modes of action united, impressions of an exciting nature are made upon the muco-respiratory surfaces, giving rise to inflammatory action of the sthenic form, generally of a low grade of intensity. This is, apparently, the most frequent source of the disease: still the respiratory surfaces are excited by causes which operate simultaneously upon the cutaneous and the respiratory mucous membrane; and although inflammatory action—the product of these latter causes—does sometimes terminate in alteration of structure and function of the muco-respiratory surface, and ultimately in *broken-wind*, it is not, comparatively, an equal mode of production.

By whichever of these sources bronchitis, in a chronic or sub-acute form, is propagated, the lesions of structure and dyspnoea, designated *broken-wind*, are consequences of that affection; indeed, this complication is continuous, by the alterations of the one reciprocating upon the other.

Inflammation of mucous tissue, as of every other, may continue of a low grade of intensity, and of the chronic kind, for a long and indeterminate period, and be of so mild a form and of so obscure a character, as even to escape observation for a considerable period. This is to be attributed to the slow and gradual progress of the inflammatory action; and, as I have previously stated when speaking of chronic bronchitis, besides being a termination of the acute form, it also occurs as a primary affection. It is of the primary form that *broken-wind* is consecutive: upon this point I am desirous of being clearly understood; and I conceive that what I am about to state will be obvious to my readers.

In acute bronchitis the expectoration of mucus is abundant, and it is by particular attention to the discharge of the sputa that we are enabled to judge that it has assumed the chronic type,—namely, by its continuance for a long time in undiminished quantity, and by its purulent quality and mitigation of the urgent symptoms. In its primary form, when it occurs as the precursor

and associate of broken-wind, its principal phenomena are, an habitual cough, a slight expectoration of a bluish mucosity, which in some cases is so trifling as to escape observation unless the water-pail is examined, an increased desire for food and water, and an absence of the appreciable symptoms of fever.

This inflammatory action continues in its low grade of procession, advancing through the subdivisions of the bronchi. The mucous membrane becomes thickened, together with the submucous tissue. The secretion is changing in quality to a more adhesive and viscid consistence. The muscular function of the bronchial tubes is impeded, together with the vital expansive power of the lungs themselves. The ingress and egress of air to and from the air-cells is gradually growing more difficult, and the changes in the blood proportionately lessened. The delicate tissue of the extreme subdivisions of the air-tubes and of the cells is endangered with laceration in ordinary respiration, and exertion of the animal, by coughing or otherwise excites the whole mechanism of respiration to increased action. Thence ensues the rupture of some part of the above structures, and emphysema of the lung takes place; a condition or anatomical character pathological of broken-wind.

In the secondary or consecutive form of chronic bronchitis, either of the sthenic or asthenic forms of the disease, when productive of permanent impaired respiration, the changes on the mucous and sub-mucous tissues are more frequently that of softening existing with thickening; and, this state of the structure extending to the cells, gives rise to dyspnœa, proportionate in severity with the extent of alteration in the above tissues.

This condition of the structures of the bronchi and air-cells is a great impediment to the vital changes upon the blood; a consequent deterioration of that fluid produces a comparative excitement in the organic vascular system of respiration, and much assists the causes of structural alteration, in the establishing of incurable dyspnœa.

In closing this essay, I would recommend the profession—and I do so with due consideration—to consider broken-wind as emphysema of the lungs in complication with chronic bronchitis. This is the pathological condition and true form of the disease.

Dyspnœa and orthopnœa may occur from other lesions besides those I have enumerated; as accidents to the diaphragm, dilatation of the bronchi, &c.; but these are anatomical characters absent in forty-nine horses out of fifty said to be broken-winded during life.

The phenomena furnished by auscultation are conclusive, and enable us to point out the disease blindfolded. The *wheeze*,

similar to that attending asthma in the human subject; and the crepitous râle, so closely resembling the rubbing of a lock of your own hair between the finger and thumb close to the ear; to these are frequently added a sound like the plaintive whining of a small puppy, or, occasionally, a distant cooing sound is heard; and these phenomena are audible at all points of the chest, but more intense in the vicinity of the large bronchi.

Some have argued against emphysema of the lungs as a lesion producing broken-wind, that is, the embarrassed respiration of the disorder, and have illustrated this opinion by referring to the air-bladders upon the surface of the lungs on dissection of horses of sound wind when living. To this I beg to reply, that those air-bladders do not constitute emphysema of the organ: they are seen upon the surface of the lung the substance of which is in the most perfect health. Any person wishing to satisfy himself upon this point may have frequent opportunity in young animals that have been slaughtered in the most perfect health.

Emphysema of the lungs is an important feature in the dissection of broken-winded horses; but it is a consecutive lesion of chronic bronchitis. It is not indispensable to the production of emphysema that the cells should be ruptured. The lesions occurring in the walls of the sub-divisions of the bronchi would be attended by the same effects. It is, however, not to be supposed that any efforts of his respiratory organs which the animal could possibly make would rupture either the bronchial tubes or the air-cells, provided these tissues and the other portions of the pulmonary structure were in a normal and healthy condition: but, when the tissues have become altered and changed by morbid action advancing in them, these lesions, fatal to the functions of respiration, may readily take place; and this must be apparent to the pathologist. As regards the primary form of chronic bronchitis existing as the precursor of broken-wind, the cough and the phenomena furnished by auscultation will abundantly prove this.

## DESCRIPTION OF A SINGULAR LUSUS NATURÆ, AND OF THE CÆSARIAN OPERATION UNSUCCESSFULLY PERFORMED.

*By Mr. J. CARLISLE, V.S., Wigton.*

ON the 26th of March last I was summoned by Mr. D. Briggs, veterinary surgeon, of Basenthwaite, twelve miles from my residence, to assist him in the extraction of a calf from a cow, the property of a gentleman in Mr. Briggs's neighbourhood. After



Mr. Briggs's examination of the foetus in utero, he felt confident, from the peculiar formation and monstrousness of the foetus, that it was not possible for it to pass the pelvic opening. Without any recourse to the torture and punishment too often inflicted under similar circumstances, he resolved on requesting my assistance.

In haste we mounted our country nags, and freely expressed to each other his opinion on the way of the most safe and effectual method of operating. On our arrival, a multitude of the peasantry were in attendance, as is generally the case, partly to witness the performance of us wonder-working vets, and partly to make themselves masters of our way of proceeding, and to steal a leaf out of our book, for each man has a cow, or perhaps more than one.

On entering the cow-house the animal was presenting two feet and a tail. I requested Mr. Briggs to strip and examine the parts, stating that very possibly some alteration of the foetus might have taken place during our absence that might render the calf more easy to extract. I thought this but fair, corresponding with the kind feeling that existed betwixt us. His examination was attended with no better result than before he had started for me. The parts were in the same situation, and the formation of the foetus was not easy to ascertain: he could distinctly feel three hind legs and two tails. Two of the legs were in the passage, with one tail; the other was articulated with the superior part of the ossa innominata, and lay over the back. The foetus appeared to have a large body, and the extraction or changing of its situation was quite impracticable.

Mr. Briggs expressed a strong wish that I should perform the Cæsarean operation; but I thought there was some uncertainty about the propriety of this. The cow was in a weak state, and I thought not able to survive the operation. The only method of extracting the foetus, in my opinion, was by embryotomy, which we agreed to perform, and which we accomplished in the following manner:—

I introduced an instrument resembling a short strong bistoury, guarded by my finger and thumb—the best conductors—with its handle resting on the palm of my hand. I commenced my dissection at the rectum, cutting downwards, severing the symphysis pubis, and dilating the opening as much as possible. I succeeded in removing the abdominal viscera and part of the contents of the thorax. I next crushed in the ribs; by so doing I was able to remove the double pelvis and the hind legs. We now gained a favourable position, and from our conjoined efforts we brought to light one of the most singular formations of nature ever witnessed. The animal had two heads, seven legs, and nine feet; two spines or back-bones, and two tails—one emerging from the



termination of each spine,—also a double number of ribs. The ribs were given off from the superior and inferior spine, and met at the middle of the sides, forming only one cavity. There was a trachea and œsophagus from each head, which united near to their termination in the lungs and stomach. The hind leg, which articulated with the superior parts of the ossa innominata, was double from the hock, and at its termination were three distinct feet, perfectly developed. The organs within the thorax and abdomen were single, excepting that at the termination of the colon the intestine was bifidated, forming two rectums, which terminated under each tail.

When the animal was placed in a standing position, the two fore legs, which grew from the inferior spine, pointed upwards over the shoulders of the outer fore legs. In all, as I have stated, there were four fore legs, and three hind ones, and nine feet. The umbilical cord entered the abdomen on the side at the union of the ribs. It is perfectly at your service.

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[The Editor presents his warmest thanks for the kind offer of his friends; but so truly unique a specimen should enrich the museum of one of the operators.]

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#### CÆSAREAN OPERATION.

Since writing the above, I have performed the Cæsarian operation on a cow. The circumstance which rendered the operation necessary was a severe injury which the animal had received two days previously; and, since that time, her shewing symptoms of approaching parturition. Several attempts had been made to extract the calf, but with no avail.

The singular effect of the injury was a twisted uterus, which had been previously ascertained. It was completely rotated, even to the termination of the vagina, which rendered all attempts to pass the hand impracticable.

As all attempts to alter the situation of the uterus had been made by Mr. Relph, a very skilful practitioner, before my assistance was required, I proceeded at once to the operation. Having got every thing necessary for the operation, we secured the animal in the same way as related in my successful case on the sow. I commenced the incision a little anterior and inferior to the spinous process of the ilium, cutting downwards and forward, to the extent of eight or nine inches, dividing the skin, muscles, peritoneum, and uterus, in their respective rotation; which was accomplished in a few minutes, and without the loss of one ounce of blood. Mr. Relph now introduced his hand, and with little difficulty removed

the calf and placental membranes. Having succeeded so far, we proceeded to secure the abdominal incision by sutures. Not having any metallic wire at hand, we employed the uninterrupted suture; afterwards applying a strong canvass bandage or roller round the body, and securing it to a girth passed round the chest, a little behind the fore legs, in order to prevent its being displaced. The operation being now finished, we examined the state of our patient, and found her to be little the worse for it.

On examination per vaginum, we found the parts properly arranged; and yet I fancied there was some unusual bulk in the pelvic cavity that I could not understand: we thought that it might be the imperfect contraction of the uterus. We now administered a little medicine, and attended to every thing for her domestic comfort, and left her about two o'clock in the afternoon.

I saw her again at nine o'clock on the same evening. She was suffering very much. She had passed some fæces of a thin character, and the bowels were much inflated with gas. From the symptoms present, I had little doubt that there was something of a serious nature connected with the case, and my opinion was strengthened by one of the family informing me that, when he first observed her, she was continually striking her belly with her hind feet, frequently lying down, and suddenly rising up again, curving her back, and attempting to void her urine. I was now fully convinced that there was some serious derangement of the bowels that would evidently in a short time run its course, and end in death. I at once resigned any further treatment, promising in the morning to inspect the carcass.

According to promise I attended, and found the cow dead. The owner had removed the skin, and made all ready for the post-mortem examination, on which the following appearances presented themselves:—On cutting open the abdomen in the course of the linea alba to its full extent, my attention was immediately drawn to the pelvic region, on observing its cavity completely crammed with the small intestines in a far advanced state of putrefaction: as far as the anterior ridge of the pelvis at this place, the portion of intestine was completely strangulated. Anterior to this the bowels were free from inflammation, and the only abnormal appearance was the mesentery which attaches the small intestines to the spine, which was torn from the spine for a considerable length.

The bladder was free from inflammation, and void of urine.

On examination of the uterus, I found an extensive rupture of the broad ligaments, near to the cervix uteri. For about four inches there was a high degree of inflammation, clearly pointing out the place where it had been twisted. The other parts of the uterus were healthy. The incision had produced some slight vascularity

in the neighbourhood; but by far less than I anticipated. The vagina appeared inflamed throughout its whole length; this, I think, was the effect of the frequent and long-continued attempts to introduce the hand to extract the calf.

The cause of all this extensive disease was, the cow tumbling over a break into a ditch, and remaining there for some time struggling very much. The calf and uterus were turned or twisted, in consequence of the lateral ligaments giving way, which would take place during the fall, as the poor animal completely turned over before she fell to the ground. The mesentery might possibly be torn at the same time, and the intestines forced into the pelvic cavity. That part of the gut which rested on the brim of the pelvis was strangulated, from the weight of the calf resting upon it; and the other portion, which was forced back, was continually under the influence of excessive pressure, from the poor creature's attempts to rid herself from pain. In my opinion, it was the torture of the sphacelated intestines—or rather the effects of that torture—which had been mistaken for the pains of parturition. The small intestines proved to be the bulk which I felt when I introduced my hand up the vagina.

It may be asked, how all this escaped my observation during the operation? I will endeavour to explain this. The system which I adopt in opening the uterus is this:—I make the incision, and immediately introduce my hands, or it is done by the assistant, within the uterus, and hold the divided edges firmly against the abdominal muscles. This partly excludes the air, and completely prevents the escape of the intestines; and, moreover, it prevents the liquor amnii from escaping into the cavity of the abdomen. The uterus should be retained in this situation until every foreign substance is removed, and the fluid completely sponged out.

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## A CASE OF APOPLEXY, CONNECTED WITH A TUMOUR ON THE FOREHEAD.

*To the Editor of "The Veterinarian."*

Should the singularity of the following case, and the necessity of having recourse to an operation soon after the development of such tumours, palpably pointed out therein, entitle it to a place in your Journal, it is respectfully offered to your service by,

Sir, your humble servant,

JOHN RELPH.

Sebergham, near Carlisle,  
May 13, 1840.

A SIX-YEAR-OLD cob-mare, belonging to Mr. T. Bowman, of Stonfield Street, quite spirited, and in good husbandry condition, was put to the thrashing machine on the 21st Oct. 1839. Having worked about two hours, she had a few minutes' rest, and, soon afterwards, recommencing her labour, was observed to falter and be giddy. She was immediately led staggering to the stable: she pushed forward to the rack; seized and ate a few mouthfuls of hay, and fell backwards prostrate in the stall, in which posture she continued without power to move the limbs, although she tossed about her head for some time.

About four quarts of blood were abstracted, and, three hours afterwards, when I arrived, coma with complete paralysis had supervened. The external muscular system was flaccid, insensible, uncontrollable, and shook with a violent tremor, which had commenced soon after falling. The external temperature was natural, but the mouth and breath were extremely hot; the tongue was dry, soft, and hanging out; the pulse 65, and strong; respirations 18, and irregular.

The mare came under the owner's cognizance ten months before this, at which time there existed on the right parietal bone a firm circumscribed tumour of the size of a nutmeg, but within the last five months it had attained that of an orange. She always evinced much dread of having it touched. When taken ill this tumour was observed to be flattened, and an irregular swelling diffused over the ossa frontis, extending to the right orbit.

The case seemed hopeless, yet I repeated venesection to the amount of seven quarts, which softened the pulse, but increased its frequency. A cathartic ball was risked in the pharynx, and, after some time, swallowed: an incision was made into the tumour, and about an ounce and a half of coagulated blood evacuated—in which operation a perforation of the parietes of the skull was discovered, which pointed out the source of the effusion and the irremediable nature of the disease. She died an hour afterwards without a struggle.

On cutting off the head an hour after death, several ounces of blood flowed from the foramen magnum; and the recently formed swelling on the face was found to consist of coagulated blood and serum, poured from the tumour by a rupture of the superior part of its sac.

After a cursory survey, I gave the tumour, flap of the skull, and brain, to a physician, whose ardour in scientific research laudably prompted him to examine them, and favour me with a description which I shall take the liberty to transcribe.

"The tumour was lined by a strong shining membrane, upon which was observed several small tufts or eminences: the tufts, if

we may be allowed the term, were soft, of the size of a pea, conical, covered with a very delicate membrane, and consisting apparently of very small granular bodies. A number of white curled hairs of an inch in length arose from each of these tufts. The most remarkable fact connected with these tufts was their position. Some of them adhered closely to the membrane of the tumour, while others were hanging loose, being attached to the membrane only by a peduncle about the thickness of a sewing-needle, and nearly an inch in length. Two of these eminences, placed at the distance of two inches, were connected by a fibrous filament of the same nature as the peduncle already described, but below which (*viz.* between the membrane of the tumour and the filament) a probe could easily be passed for half of its length, the remainder being firmly attached to the membrane. At the lower part of the tumour, and corresponding to the middle and right side of the sagittal suture, we observed a roundish opening of three-eighths of an inch in diameter, with smooth and rounded edges, covered by a continuation of the membrane of the sac. The opening was filled with coagulated blood. We discovered between the tables of the skull a cavity nearly an inch in depth, extending outwardly from the sagittal suture for an inch or more, while in its infero-superior diameter it occupied two inches. Searching cautiously the interior of the cavity, the probe at length passed into the interior of the cranium, close upon the longitudinal sinus, by a narrow slit-like opening, which was separated from another such opening by a small portion of the bone.

“An effusion of blood existed on both sides of the longitudinal sinus, but more extensive on the left, less having escaped by the perforations which were on the right. The structure of the brain was natural.”

I presume, with the doctor, that the tumour was encysted and serous, having its origin in the *diploë* of the parietal bone. In the course of its growth it caused, by pressure, first absorption and perforation of the external table—a portion of the sac protruded, and pushed its way through the subcutaneous cellular tissue on the forehead and over the origin of the anterior aural muscles. Subsequently the internal table was perforated by the same process; possibly the longitudinal sinus also suffered: and as soon as the pressure was removed by the bursting of the sac, the sinus gave way, blood was poured out, and hence compression of the brain and suspension of the powers of life.

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## A CASE OF SEVERE CHRONIC FOOT LAMENESS.

*By Mr. G. M. MARSHALL, V.S., York.*

*Sept. 19th, 1837.*—I WAS this day requested by Mr. Simpson, of the York Hotel, to examine a chestnut horse, nine years old, that he had purchased at a sale of cast troopers for a very trifling sum, he being very lame in the near hind foot.

On examining him, there was an enlargement over the coronet, on the outside, with a small ulcer on the top of it, which at first sight appeared to be a sinus, but, on attempting to probe it, I found it not to be one. There was a sinus at the posterior part of the heel, over the frog, which was about two inches in depth, taking a direction downward and forward; and the sole was very much elevated, with scarcely the vestige of a frog. He went on his toe, being totally unable to put the heel to the ground. The under part of the foot was covered with astringent powder.

On inquiring into the history of this case, I was informed that, shortly after joining the regiment, about five years since, he received an injury, caused by the point of a file entering at the side of the frog, and making its appearance over the lateral cartilages on the outside. By the remedies then used he became nearly sound, so as to do light duty, but was frequently lame, and, latterly, altogether off duty.

I commenced the treatment by trimming the sole, and lowering the wall of the hoof all round, ordering poultices to be kept constantly applied, which were continued without any other treatment to the 25th, the enlargement over the coronet remaining very hard.

*25th.*—Syringe the sinus at the back of the heel with a sol. chlor. calcis, and continue poultice.

*26th to the 28th.*—Same treatment.

*29th.*—Syringe, with sol. sulph. zinci, and continue cataplasm.

*Oct. 6th.*—Same treatment continued: the enlargement over the coronet has suppurated, and there is a sinus formed, which communicates with the one at the back of the heel; there is also a hollow place near the point of the frog, which I opened, and I fancied I felt a loose portion of bone, but which I could not then extract. I thinned the sole, and lowered the crust as much as it would admit of all round; applied a shoe with a lever at the toe, to force him to put his heel gradually to the ground. Syringe with sol. sulph. zinc., and dress the frog with petroleum comp., applying firm pressure to it.

*12th.*—Same treatment has been continued to the present time.



Cast him, and opened the hollow part in the frog more completely, and gave vent to a quantity of thin ichorous matter, which was followed by the sloughing of a small piece of bone: syringe with sol. chlor. calcis, petrol. comp., and apply pressure as before.

18th.—The sol. chlor. calcis and sulph. zinci have been used alternately to this date; the discharge is of a fine healthy character, and the frog grows rapidly. Dress every third day with the chlor. calcis, the intermediate days with the sulph. zinc., and to have regular walking exercise.

Nov. 29th.—The treatment has been continued to the present time; he goes sound in the walk, and very slight lameness is observable in the trot. He lays his heel well to the ground. Apply a blister round the coronet.

Dec. 7th.—Blister repeated.

Jan. 10th, 1838.—Put to work, sound.

Oct. 1839—He continues sound, although he has been worked excessively hard as a post horse, and is at this date one of the best horses in Mr. Simpson's stud.

## A CASE OF SUDDEN SEROUS APOPLEXY IN A MARE.

*By Mr. RICHARDSON, V.S., Peterborough.*

A BROWN coach mare, eight years old, the property of Mr. Geo. Clifton, of this place, was attacked some few weeks ago with symptoms of farcy, which disease appeared to have yielded to the treatment resorted to. She had not, however, been worked since that period; but as she seemed to have perfectly recovered, it was the intention of the coachman that she should have resumed her usual journeys on the following week.

On Friday last, the 10th ult., she was turned out in the yard for a little exercise, which was a customary thing for the coachman to do when he returned home in the evening. At that time she appeared perfectly well, very playful, and in capital spirits; but she had scarcely left the stable before she began to stagger, and immediately broke out into the most violent and profuse perspiration. It was with the greatest difficulty he succeeded in getting her again into the stable ere she fell, and appeared to be suffering the most excruciating agony, beating the ground with her feet, and rising every instant, and dropping as suddenly. At this stage of the disease I was sent for, the man stating that he thought the mare was mad.

I found her down, and gasping as if in the last agonies of death; her nostrils dilated, and the perspiration steaming from every pore. She was continually attempting to rise, but had apparently lost all power of supporting herself, and her struggles were so continued and so violent that I did not deem it safe to go near her; but, after I had waited some time, she made a most desperate effort, and succeeded in rising. I availed myself of this opportunity of examining her.

Her ears and extremities were warm; her pulse nearly 90; her mouth hot and feverish. I immediately abstracted 18lbs of blood, which for the time appeared to relieve her; the relief, however, was but transitory, for I had scarcely stopped the hemorrhage ere she again fell. The pain returned as acutely as ever, and with it the paralysis of the hind extremities. Her fæces were perfectly natural.

I did not attempt to administer any medicine, as I felt convinced that the case was a hopeless one. Her struggles were the most violent I ever witnessed, and her breathing was such as would lead one to suppose that every respiration must be her last. In fact, I left her at half past ten o'clock without the most remote idea of ever seeing her again alive: she however continued until half past seven on the following morning, at which time, seeing there was not the shadow of a chance of her recovering, as she lay without the slightest power in her hind or fore extremities, I signed the death warrant for her execution, and she was slaughtered immediately.

Upon a post-mortem examination I found the viscera, both in the thorax and abdomen, were perfectly healthy. The membranes of the brain, however, were highly injected, and the brain itself shewed evident symptoms of inflammation. There was considerable effusion of serum in the cavities of the cranium. The medulla oblongata appeared more highly inflamed than any other portion of the cerebral mass; and there was an effusion of serum throughout the whole course of the spinal canal, with a corresponding inflammation of the medulla spinalis.

About three weeks ago, while the man was exercising her, she was suddenly attacked in the same manner, but in a slighter degree, and which attack disappeared almost as suddenly as it had made its appearance. Unfortunately no notice was taken of this, or the more severe and fatal attack might probably have been prevented.

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## A CASE OF HEPATITIS IN A TERRIER.

*By Mr. JOHN ROLFE, Veterinary Student, Bungay.*

IN the beginning of last March a favourite Scotch terrier, two years old, the property of Miss —, a young lady in Camden Town, was attacked with what canine pathologists term the red mange, for which he was treated by a chemist, and apparently with success. On the 1st of April he was observed to be dull; refused his food, wandering about, shifting his place from one part of the room to another, and was extremely restless. The following day, about 10 o'clock A.M., I was requested to see him.

*Present Symptoms.*—The covering of the mouth and eyes of a deep yellow; the skin tinged, and the urine also. The pulse hard and small; breathing somewhat disturbed; countenance anxious; and the dung hard and small in size. The extremities cold; the nose and mouth hot; great pain expressed by pressure being made on the abdomen, particularly towards the right side; a staring coat, and insatiable thirst. I bled him to the extent of  $\text{℥vj}$ , gave an emetic, and applied a blister to the region of the liver.

5 P.M.—The medicine has not operated; he refuses altogether to eat, and is very fidgetty. I got a little dung from him by passing the fore-finger up the anus, which was rather hard and slightly yellow. Gave him pulv. aloes  $\text{ʒss}$ , hyd. chlor. et pulv. antimon.  $\text{āā}$  1 gr., and a cathartic enema every half hour.

3d, 9 A.M.—I found him lying down, panting, and crying piteously; the pulse very feeble, and the extremities moist with perspiration\*. Only a few bits of dry and hardened fæces had been evacuated during the night. The mouth and eyes continue very yellow, and he is evidently worse. Give him hyd. chlor. gr. ij et ol. croton. gutt. ij, in gruel with the stomach-pump. Repeat the blister; and enemas every half hour as before.

2 P.M.—The urine is of a deep yellow, and voided only in small quantities; the bowels have not been moved, and he is getting weaker. The pulse frequent and feeble. He is continually lying down and rising up, and shifting his posture in every possible way. Continue the clysters, and apply six leeches to the abdomen.

6 P.M.—Countenance very anxious; abdomen tender on pressure: no stool; vomiting incessant, and of a fæcal odour. Give hyd. sub. gr. j, pulv. opii gr.  $\frac{1}{2}$ .

9 P.M.—No better. I gave aloes pulv.  $\text{ʒij}$ , hyd. chlor. gr.  $\frac{1}{2}$ , et

\* It has been said that the dog never perspires through the medium of the skin: that, however, is incorrect, for I have seen it in many instances.

pulv. opii gr.  $\frac{1}{4}$ , and ordered him to be put into a warm bath, and afterwards hot flannels several times in the course of the night.

4th, 10 A.M.—Much the same: the medicine has had no effect, although he has had very large doses; and, all hope of his recovery having fled, I wish the scene were closed. Still, however, persevere. Try 3vj of the mag. sulph. Continue the clysters and warm bath, and bleed to syncope.

4 P.M.—Improvement: he has lapped some broth, and the countenance is less anxious; bowels opened once, and less painful on pressure. He is evidently better. Give a grain of calomel in some gruel.

7 P.M.—Has had several fits of pain and uneasiness since I last saw him, and now he is suffering the most acute agony, accompanied with frequent vomiting. The breathing is accelerated, and the right side of the belly exquisitely tender to the touch; extremities cold and clammy, and the pulse nearly imperceptible. Administer hyd. sub. gr. j, et pulv. opii gr.  $\frac{1}{2}$ , and continue warm bath.

11 P.M.—The vomiting has ceased, and the extremities are become warm; the bowels have been opened three times; pulse somewhat improved in character, but the breathing more disturbed. Give gr.  $\frac{1}{2}$  of calomel in gruel.

5th, 11 A.M.—The bowels are acted upon rather too much; the respiration is laborious, and he will not eat. Give mucilaginous draughts and enemata.

4 P.M.—He is more lively, takes a little food, and the pulse is improved. His breathing, however, still continues laborious, and I frequently hear him sigh. He is not worse than he was yesterday; I should rather say better. Continue treatment.

9 P.M.—He is not worse, but ceases to improve. Continue treatment.

6th.—This morning he looks more cheerful; has eaten some boiled mutton during the night, and lapped some broth. The pulse continues frequent and feeble, but is plainer to the finger; the bowels are more regular, and he certainly appears to be somewhat better. Give hyd. chlor. gr. j, et pulv. antimonialis gr. jss.

6 P.M.—He appears a little dull and sleepy, but his appetite is much improved. I should say he is better. Repeat the dose.

7th.—He continues to improve in his appetite; the region of the liver is less tender on pressure, and the nose, mouth, and eyes, are not so yellow. Medicine repeated.

8th.—This morning he is decidedly better, has eaten nearly half a pound of boiled mutton, and lapped a considerable quantity of broth. The breathing, however, continues somewhat hurried, but the pulse is stronger. Medicine as before.

9th.—Much better. Pulse improved in character; bowels more regular, and less tender on pressure. Continue treatment.

10th.—He seems to be going on very well, except that he has not quite his usual spirits. Continue treatment.

11th.—He is regaining strength; he eats more than half a pound of solid meat daily; the fæces are not quite regular; and the respiration continues a little disturbed. Medicine as before.

13th.—Very much better: he can now walk out a short distance with his mistress; the breathing is more tranquil; pulse much improved in character; bowels open, and the tenderness nearly gone. Continue medicine.

14th.—He continues to improve gradually. Administer daily the following pill:—

R Hyd. chlor. ....	half a grain
Gentianæ pulv. ....	5 grains
Antimonialis pulv. ....	1 grain
Aloes pulv. ....	3 grains.

17th.—Discontinue treatment.

20th.—Saw the terrier this day, and he is now in perfect health, and very playful. I send the above case for your opinion as to its treatment.

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[Mr. Rolfe asks my opinion of the treatment. I will tell him candidly. There was a great deal of decision, of acuteness, of judgment, of patient observation, and adaptation of medicine to the changing character of the disease: but I have one fault to find with him, which it requires all these favourable circumstances to induce me to forgive—the outrageous exhibition of the *calomel*. He may depend upon it, that, as a dog medicine, it is one of the most dangerous drugs with which he can meddle, and except as an emetic, and now and then as a vermifuge, it does a hundred times more harm than good. The single dose of the sulphate of magnesia was of more service than all the calomel, and its good effects were nearly ruined by the return to the poison on the following day. The blue pill, or the blue ointment, are now and then admissible—they would have done good here; but the cases are few and far between, in which, if used in considerable quantities, calomel does not injure or destroy. Still, I repeat that, *under all circumstances*, I give Mr. Rolfe much credit for his treatment of the case. He asked my opinion, and he has had it, and an honest one.—Y.]

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## A CASE OF VOMITION IN A COW.

*By Mr. C. S. GREEN, V.S., Fareham.*

IN the autumn of 1839, I was desired to attend a cow that had a large abscess between the branches of the lower jaw, accompanied with vomiting, and an increased discharge of saliva from the mouth, with loss of appetite. She had been labouring under this disease for six months, and was reduced almost to a skeleton.

Her vomiting, if so it might be called, was of a singular character. She ejected sometimes half a pint, at other times more than a pint, of a glairy fluid as transparent as water. This happened several times during the day. I applied a blister to the throat, and the swelling was very much reduced; but as the animal was evidently becoming weaker every day, and was in the lowest possible state of condition, I proposed to the owner to have her destroyed, which was consented to.

*Inspectio Cadaveris.*—On examining the under surface of the tongue there was an abnormal appearance of a cartilaginous nature, in the centre of which was a cavity containing some thick glairy matter: in the second stomach or reticulum there were some small portions of lead, which were found to be shots, there being nineteen in number, sixteen of them in a perfect state; the other three, being compressed nearly flat, were found to be corroded.

THE HISTORY OF THE HORSE—THE VARIOUS  
BREEDS—AND THE SUPPOSED HEREDITARY  
PREDISPOSITION.

*By Mr. G. BAKER, Reigate.*

THE value of the horse has been acknowledged from the remotest antiquity; and in tracing his history and utility, I am induced to refer to the inspired volume, because it is the oldest record extant. The sublime description of the horse in the 39th chapter of the book of Job must be known to every reader; and the writer of that book is supposed to have been coeval with Moses, and consequently many centuries prior to Homer, who was contemporary with Elijah.

The proximity of the land of Uz to Arabia may have suggested the description; and the Arabians so passionately admire this noble animal, that they have exhausted all the wealth of their fine



language and rich imagination in descriptions of his beauty, spirit, and pride.

Thus Antar:—"Shedad's mare was called Jerivet, whose like was unknown. Kings negotiated with him for her, but he would not part with her. 'Seek not to purchase my mare,' he cried, 'for Jerivet is not to be bought or borrowed. I am a strong castle on her back, and in her bound are glory and greatness. I would not part with her were strings of camels to come to me, with their drivers following them. She flies with the wind, without wings, and tears up the waste and the desert. I will keep her for the day of calamities, and she shall rescue me when the battle dust rises.'" There are many touches in a similar spirit in the history of the horse, Dalies, which was the occasion of a war among the Arab tribes. At a great feast, when the conversation turned upon celebrated horses, one said of Dalies, "He startles every one that looks at him; he is the antidote of grief to every one that beholds him, and he is a strong tower to every one that mounts him. When a night of dust sheds its obscurity, you may see his hoofs like a firebrand."

The Divine command to the Hebrews not to multiply horses, recorded in Deuteronomy, xvii, 19, has been a subject of much research and controversy with biblical critics. Michaelis, a learned orientalist and biblical critic of the last century, in his interpretations of the law of Moses, &c. gives much curious and valuable information on the subject. The divine command to Joshua to "*hough* the horses of the Canaanites," chapter xi, was the consequence of the above injunction. We find David also acting upon a similar occasion in the same manner. To *hough* a horse (the word is of Saxon derivation) is to hamstring it, or cut its thigh sinew. Michaelis, who has devoted an article to this subject, and to whom we acknowledge much obligation for various illustrative information about horses, observes, that many expositors, from ignorance of military affairs and of the veterinary art, suppose the command in Joshua xi to mean, not that the horses should be killed, but merely lamed in the hind legs, and then let go. But a horse thus severely injured would fall instantly back, and writhe about miserably until he died. The hamstringing can be done in an instant, and the animals generally bleed to death, or, should they survive, the wound never heals, so that even if the enemy recovered them alive they were ultimately obliged to destroy them. He adds, it were inconsistent with the humanity of the law-giver to lame the horses without putting them to death: the permanent laming of a horse that would still live would have been extreme cruelty, for, being wholly useless, no one would care for it, or supply it with food.

The practice of hamstringing was not confined to the Hebrews: we find the Romans adopted the same course with the elephants of their enemies, having no desire for the assistance of such dangerous auxiliaries.

I believe the practice of hamstringing the bull is sometimes resorted to in the Spanish bull-fights.

The Israelites employed asses instead of horses for all the purposes of agriculture, &c. Christ entered Jerusalem on an ass, possibly in indirect obedience to the command; for he came not to abrogate the law of Moses, but to spiritualize and fulfil it.

In the 10th Commandment the Hebrews were enjoined not to covet the ox or the ass of their neighbours: if these neighbours had possessed a valuable horse, it would have been much more desirable.

A direct allusion to the absence of cavalry as a cause for a more implicit trust in the power of Jehovah is frequent in the pages of the Old Testament.

In chap. i of the 2d book of Chronicles we find Solomon importing horses from Egypt, not only for his own use, but for the kings of the Hittites and the kings of Syria. There have not been wanting commentators who endeavour to prove that Solomon not only traded in horses, but profited by the supineness of the Egyptians and their objections to the hazard of exportation by maritime commerce, combined with the facilities of his own dominions to secure a monopoly, while he increased the safety of his own territories by an effective body of cavalry.

It is interesting to observe the price given by Solomon's factors in the wholesale purchase of horses and chariots: each horse was 150 shekels, which, according to the lower or higher value of the shekel (2s. 3d. or 2s. 6d.), would be from £17..2 to £18..5, while the chariots at 600 shekels would be from £68..9 to £75. It will be observed that the latter sum is four times that of the former, which gives some probability to the opinion, that in this, as in other instances, the word *mercubah*, rendered chariot, denotes the horses belonging to a chariot; and, consequently, as it was then customary to yoke four horses to a chariot, the price of a set of chariot horses quadrupled that of a single horse. The Septuagint, however, understands a chariot to have been intended, and, upon the whole, it was most likely. Michaelis says the fixing of a price had the look of a monopoly, and indicates, besides, that horsemanship was in its infancy; for whenever people have sufficient knowledge of horses, with all their combinations of faults and excellencies, to judge of them as amateurs, one may be worth ten times as much as another, particularly in a king's stable.

In the prophecy of Isaiah (ch. v, ver. 28) of the invasion of

Judea by the Babylonians, it is said, "their horses' hoofs shall be counted as flint;" and it is necessary to observe that this people were noted for their power in horses and chariots.

Xenophon, in the 2d book of the *Cyropædia*, represents Cyascares as stating to Cyrus the force which the allies opposed to him might bring into the field. The number of the Babylonians was set down at 20,000 horse and 200 chariots, double the number of any other power of Western Asia.

The allusion to the hardness of the horse's hoofs is conjectured to arise from the fact, that the ancients did not shoe their horses by nailing iron plates to the foot. They had, indeed, shoes of leather, gold, and silver; but these enclosed the whole hoof, and were bound or tied on, being used very rarely, and only on particular occasions. Hence the hardness of the hoofs was a very important consideration, and Xenophon lays much stress on this point, observing, that "the good hoof is hard and hollow, and, when struck on the ground, sounds like a cymbal." He also suggests means by which the hoofs may be hardened. The necessity of such hard hoofs in war-horses did not escape Homer, who continually applies to them the epithet brazen-hoofed.

The fable of the centaur Chiron, the tutor of Esculapius and Achilles, is conjectured to have originated in the Thessalians having acquired the art of the manege from the Egyptians, who were, we know, acquainted with the value of the horse for riding and driving, first, from the ancient sculptures, in which both are represented; and, secondly, by Joseph's bartering the hoarded corn for horses and asses; and Miriam, in chanting the deliverance of Israel, celebrating the overthrow of both horse and rider.

The poetry of Homer abounds in allusions to steeds and chariots, which, with beauty and armour, constituted the most attractive portions of the spoils taken in battle. The coursers of Rhesus, fleet as the wind and white as the driven snow, were an inestimable prize to Tydides; and it was the hope of obtaining the immortal-bred steeds of Achilles that urged Dolon to the adventure that cost him his life. One of this "heavenly race" was subsequently endowed with the gift of speech and prophecy; but, like Cassandra, raised his voice in vain.

The military strength of Greece did not consist in her cavalry, which was composed only of men possessed of estates, and able to furnish horses at their own charge.

The practice of human and veterinary surgery appear at this time to have been exercised by the same person. Hippocrates, the most celebrated Greek physician, and father of medical science, practised indiscriminately on the horse and his rider, (see La Fosse's *Dict. d'Hippiatrique*); and in addition to his medical works,

he has written a treatise on the curative treatment of horses. Xenophon has also a treatise on equitation (*De re Equestri*), and an interesting description of the wild ass of the east.

The well-known anecdote of Alexander taming Bucephalus enables us to deduce three conclusions: that Thessaly still maintained its reputation for horses—that Macedon was far behind in the equestrian art—and that horses were of great value, as the price demanded for Bucephalus by Philonicus was no less than thirteen talents, or £2518..15s. sterling.

When Darius advanced to meet Alexander, there were 400 led horses for the use of the king, exclusive of the cavalry, 10,000 of which body were slain in the battle of the Granicus.

At the foundation of Rome, Romulus chose 300 young men of the noblest families to serve on horseback; but, after the institution of the census by Servius Tullus, all persons who were worth 400 sestertia (£3125), and possessed an unblemished character, had the honour of being admitted into the order of Equites. On being enrolled, a horse and gold ring were given to each, and he was obliged to appear on horseback whenever the state had occasion for his services. This constitution of cavalry continued until the time of Marius: after that period the military affairs (with which under the dominion of ancient Rome every thing concerning equitation is inseparably connected), were remodelled. The knights preferred the enjoyment of ease and affluence at home to the dangers and fatigues of war abroad; their places in the army, therefore, were filled by foreign horse, and the title became a mere honorary appendage, unconnected with military duty.

A legion consisted of 3000 infantry, as at first fixed by Romulus: it was afterwards increased to 6000; but the common number was from 4000 to 5000. The Roman cavalry, in battle, were posted on the wings or two extremities of the enemy, and fought sometimes on foot and sometimes on horseback, as the occasion required. I need not remind the classic reader of the description of the war-horse in the *Eneid*, second only to that of Job. The line

“Rings to the solid hoof that wears the ground,”

proves by analogy that the practice of metallic shoeing was not yet established. This was first practised during the dark ages, when the classic term “*veterinarius*,” employed by the writers of the Augustine age, became changed to that of “*farrier*,” derived from the metal with which the horses were shod.

The Romans delighted in public games: they formed a part of what Bulwer aptly calls the graceful superstitions of Paganism; and when, as in the chariot races, they were divested of the sacrifice of animal life, must have been alike exciting and picturesque.

The chariots were named Biga, Quadriga, &c., from the number of horses yoked to them : these were always arranged abreast, however numerous ; and Suetonius relates, that at the Olympic Games, Nero made use of a decemjugis, or chariot drawn by ten horses thus yoked.

Caligula paid divine honours to his horse, and fed him from vessels of gold in a manger of ivory.

The allusions to the horse, and subjects connected with him, become now so numerous in the Latin classics, that we will pass on to an author who has embodied in his writings the pith and spirit of their united productions ; namely, Vegetius, a Byzantine nobleman, who flourished towards the close of the fourth century, in the reign of Valentinian II. His works were a sealed book during the long night of Gothic darkness ; but on the revival of learning by Francis I, who commanded the translation of the Constantine collection, they were translated into Latin, and thence into the modern languages of Europe. From them we may trace the first work on veterinary subjects published in England, by Blundeville, in the reign of Elizabeth, which was chiefly a compilation from ancient authors who had written on the subject.

The first mention of horses in England is by Julius Cæsar, who remarks that, on his first invasion, the Britons had great numbers well trained to warlike exercises. The Romans, probably, contributed little to improve the breed of horses, since no trace of amendment are to be found during so many ages. There is a tradition, that the English mares and stallions were so valued by the Saxons, that Athelstan prohibited their exportation except as presents.

Roger de Bellgine, created Earl of Shrewsbury by William the Conqueror, is the first who is recorded to have made attempts towards the ameliorating our native breed. He introduced Spanish stallions into his estate at Powisland, in Wales ; from which that part of the country was for ages after famed for a swift race of horses. Strength and swiftness were then more important than shape, as the form of the horse was entirely hid by the armour at that time in use. The number of horses in the time of Stephen is said to have amounted to 20,000.

In the reign of Henry VII and VIII more particular attention was paid to the important improvement of the breed of our horses. The regulations made, and the means employed, were in unison with those unenlightened times, and consisted in arbitrary directions and impolitic restraints, not calculated to advance the intended purpose. Magistrates were empowered at Michaelmas tide to scour the heaths and commons, and put to death all mares considered of insufficient size to bear good foals ; and the prohibition of

Athelstan to export horses was continued, in particular as regarded stallions.

In the reign of Elizabeth the whole kingdom could not supply 2000 horses to form our cavalry. It was, probably, in consequence of this deficiency that our importation of foreign stock took place, which gradually improved the native breed. In the reign of James, horse-racing became fashionable throughout England. It was a favourite diversion of the Stuarts, and much encouraged by them. Cromwell did not forget that necessary appendage, a stud of race horses. By instituting royal plates at the restoration, additional encouragement was given to horse-racing, and much emulation was promoted among breeders, with the judicious view of perfecting and extending a race of horses fit for the road, the chase, and for war—while an enlightened policy allowed free exportation. From this period to the middle of the last century the system of renovation from the different original foreign stocks has been occasionally adopted; the consequence has been a decided superiority over the parent stock from each country, and a peculiar breed of our own, of all denominations, of superior proportions, speed, power, and utility.

Having traced the horse to a period when it is well known to all, as circumstantially as can be expressed in so limited a space, in continuation of the subject I will, in a future number, offer some observations on the distinguishing characteristics of the different breeds of horses, foreign and domestic, and conclude with some practical observations on the hereditary dispositions to malformations, and the necessity of selecting such animals for breeding as come nearest to the standard of desired perfection.

[To be continued.]

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## SINGULAR CASE OF FATAL EMPHYSEMA.

*By Mr. FRANCIS SMITH, late of Kimbolton.*

WE lost a patient in rather a singular manner in the spring of 1836. Mr. Dickens had a young thorough-bred horse, and wished me to ride him with the hounds. We met at Swineshead Wood, and found, as we went away at the best pace for about three miles, the wind blowing strong, and the running being against the wind.

On coming to a check, a gentleman remarked to me, "Your horse is a fast one, but your girths are too tight—they will cut him in two." On dismounting, I was surprised to see a quantity of air on the near side extravasated from the elbow to the sheath, and which, distending the skin on each side of the girths, gave them the appearance of cutting him in two, although, in fact, they were loose.



On examination, I found a small wound on the inside of the elbow, barely penetrating through the skin: no blood had escaped, but there was a small quantity of frothy fluid about the lips of the wound. I immediately pinned up the orifice, and walked him gently home.

On my road thither it occurred to me that, in getting away from the wood, I had ridden him over a ditch with a staked hedge on the farther side; and it was then plain that some unlucky stake, higher than the rest, had penetrated the loose cellular substance about the elbow, and, every time the horse extended his fore legs in the act of galloping, the air entered the wound.

The emphysema gradually extended over the shoulder and along the neck, which, when struck with the stick, gave a drum-like sound. On reaching home, every thing that we could suggest was done for him. We attempted to evacuate the air by means of numerous lancet punctures. Friction was employed. Fomentation with warm water was had recourse to; but all in vain. Towards night febrile symptoms began to develop themselves. He was bled, but still the irritability increased. The knees and hocks, and every part except the head, presented a bloated appearance, with a disagreeable crepitating feel.

During the night repeated doses of opium were given.

On the next morning he appeared to be better, but had passed no fæces. He continued to discharge small quantities of urine, apparently with great effort:  $\mathfrak{Z}$ ss aloes in solution was given, and enemata administered frequently. Towards evening a very small quantity of liquid fæces was voided; but the appearances of recovery proved fallacious, and he became gradually worse throughout the day. We inserted a rowel in the chest, and another in the thigh, both of which soon discharged well.

About 6 P.M. he first shewed symptoms of acute pain. He would stand for some time with his fore legs wide apart, and a countenance expressive of suffering, and then paw his litter violently for five minutes together. We sat up with him during the night: he was again bled, and more opium administered; but he became rapidly worse. The flatus was extending to his intestines, so that we could scarce introduce the enema pipe. He would now get into a corner and stand with his nostrils distended; his respiration much hurried; pulse 120, and scarcely perceptible.

He continued in this state throughout the following day, and was evidently sinking. About eleven at night he fell, and died after a few struggles.

On the post-mortem examination next morning, the wound was found to be exceedingly small, and had scarcely penetrated through the skin; but the whole of the sub-integumental cellular substance

presented the appearance of inflation, as a butcher would have blown up a calf. The lungs had not a trace of disease. The liver had a clayey appearance, and was easily broken down with the finger: he had been under treatment for an affection of this viscus of some standing. There was a little pus in the pelvis of each kidney, and also a laceration of the rectum, about two inches in length. Every other part was healthy.

Is this a case of frequent occurrence? I have not read of one analogous to it. Could we have pursued any other treatment with more prospect of success?

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## ON DROPSY OF THE JOINTS IN COLTS—AND INFLAMMATION OF THE UDDER AND OF THE MANIPLUS IN COWS.

*By* "A VETERINARY PRACTITIONER."

[We know and we respect the writer; yet it is with much unwillingness that we admit a feigned signature. The paper, however, is a plain and practical one, and suits our present purpose.]

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I HAVE lately had in my practice several (what I term) dropsical affections of the joints and other parts of the horse. They have seemed to arise spontaneously, I mean without any mechanical cause or local injury. In most cases they have formed on the knee and hind fetlock joint. They have not been externally tender, although they have occasioned considerable lameness and great pain.

I began, in my first few cases, to endeavour to remove them by bleeding, purging, and repellent applications frequently applied. This, however, did no good. I therefore altered my plan of treatment, and evacuated the serous contents at once with a small pen-knife, not a lancet. The fluid, notwithstanding this evacuation, soon formed again; and in some instances excessive inflammation followed.

At length I began to inject a small quantity of spirits of turpentine into the cavities; which completely changed the action of the vessels, and soon removed the swellings. A small tent of tow dipped in this fluid was introduced into the orifice, and there retained, to prevent a too sudden closing of it and also the admission of air into the sac, which I have always found to be a powerful and dangerous irritant.

The zinc solution, commonly recommended for serous abscesses, appeared to do no good whatever.

Diseases also of the udder in cows frequently come under my notice; and I generally find that small doses of sulphate of magnesia—about an ounce—combined with nitre, carbonate of ammonia, gentian, ginger, and pimento, and repeated daily, soon remove the disease, and all does well.

My topical application at first is an embrocation of soap made by rubbing down soft soap, two parts, oil of turpentine two parts, hartshorn one part, and water six parts. If any induration is left afterwards in the udder, it is soon dispersed by the iodine ointment. I never now bleed in these cases, not even when constitutional excitement runs high. I generally find it does harm. In severe cases, the above alterative doses are preceded by a brisk purge of salts, with plenty of cordial in it.

Last summer I met with a few cases of ulceration of the folds of the maniplus in cows. The symptoms previous to death were not acute, but rather those of languor and loss of appetite. After death, in those that died, I found several distinct circumscribed patches, of a dark red membrane, nearly corroding through the leaves. They were about the size of a half-crown. I gave small doses of salts, with gentian and laudanum, in most of the cases. I attributed these appearances to the agency of some vegetable narcotic, most probably taken into the stomach while grazing.

## HEMORRHAGE FROM THE GLANS PENIS IN RAMS.

*By Mr. R. READ, Crediton.*

THIS occasionally occurs to rams during the season they are put with the ewes, and invariably arises from an abrasion of some of the bloodvessels of the glans penis, which are of a delicate structure, and only held together and defended by a very thin tissue. It is a beautiful congeries of small worm-like vessels, and when distended *pro coitu*, every vein seems ready to rupture. Now this laceration is mechanically produced during connexion, or previous to connexion, with the ewe, either from dirt about the wool that surrounds the labia, or from the intervention of a little clot of wool during erection. I have seen as much as from three to six ounces lost. On casting the ram on his rump, and examining the glans penis, you will discover a laceration, with a coagulum of blood over it; and at every succeeding erection a portion will be lost. The quantity thus abstracted is sometimes considerable, and

appears to alarm the owner; but seldom any bad consequences ensue.

The first step is to remove the ram from the ewes, and apply either a mild solution of sulphate of zinc, or the compound tincture of myrrh. It will be necessary to keep the ram away for about seven or ten days: if he is worked before that period, a secondary bleeding will ensue.

I have made careful inspection, yet never could discover a single rupture of a vein, but always an abrasion of the parts.

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### GLANDERS.

THE present number contains much interesting matter respecting glanders. The following little history may, therefore, not be quite unuseful.

A gentleman passing through Smithfield Market on Friday the 23d inst. observed a man running a very good-looking bay mare up and down the market. It struck him that the mare would answer his purpose, and he asked the price, and was told by the owner, who seemed to be a countryman, that he would take fifteen sovereigns for her, and not a farthing less, and that he would warrant her sound in wind and limb, and in every respect.

The gentleman wished for a reference, and the name of a person at a distance, of whom he knew nothing, having been given, he expressed dissatisfaction, and asked whether there was any one in the neighbourhood who would answer for the character and integrity of the seller. "Oh yes," said the countryman; and he led the way to a public house in Smithfield Market.

On entering the house he asked the landlord and another person at the bar, whether they knew the countryman, who stated his name to be Brown; to which they applied in the affirmative, and that he was a perfectly safe man to deal with. The bargain was then concluded, and the fifteen pounds paid. A man to lead the horse was easily procured, and he departed with his bargain.

He had, however, scarcely got so far as Snow-hill, when he was surrounded by a crowd of fellows, who told him that he had bought a glandered mare, and offered to rid him of his bargain for a certain sum: he, however, would have nothing to do with them, but took the mare home, and, sending for his veterinary surgeon, found that he had indeed purchased a glandered animal, and that there was no help for it. Some ill-looking fellows afterwards came to his yard, and offered to purchase the mare, and he,

ashamed of his bargain, sold her to a butcher-looking fellow for seven pounds.

He went to the next market, and learned that it was quite a common thing to sell glandered horses—re-purchase them for a small sum, and sell them again to new flats. While he was talking, he saw the same identical mare with which he had been duped run up and down for sale, and he heard eighteen pounds asked for her.

He immediately started in search of the police, but on his return the mare and her professed owner and purchaser had disappeared. He went immediately to the police office, and stated all the circumstances, adding that he had no desire of obtaining redress himself, but he wished to put an end to such rascally proceedings. The publican was sent for: he owned that he knew a person of the name of Brown, but not where he was to be found; and as for the circumstance alluded to, he had no recollection about it. The magistrate ordered him to appear again on the 26th, and to bring with him the man who was at his bar when the transaction took place; observing that a most villanous conspiracy had long been carried on in Smithfield, which the magistrates were determined to put down.

The matter was not suffered to be slumbered upon, but the following memorial on the subject was presented to the Common Council:—

“To the Right Honourable the Lord Mayor, &c.—The memorial of the undersigned inhabitants of West Smithfield and its neighbourhood sheweth, That a public horse market has long been held in Smithfield on Friday afternoon, and your memorialists are indebted to you for this, and take this opportunity of thanking your honourable court for the many recent improvements made therein.

“That a nuisance of great notoriety still remains unabated, in the introduction and sale of glandered horses in the said market by unprincipled men, who conduct their traffic in horses in such a manner as to deceive unwary purchasers and evade the law.

“That glanders is a highly contagious disease, and, in several instances, has affected and proved fatal to the human subject.

“That your memorialists feel aggrieved and alarmed to see this perpetrated without restraint in a shameless manner.

“That the character of the market in public estimation, and also its fair and lawful trade, are seriously impaired thereby.

“That the market police-officers, although very efficient in almost all cases, and with power to attach the seller of a glandered horse for a misdemeanor, yet feel themselves incompetent to judge of the existence of this insidious disease, which demands all the knowledge and tact of a skilful veterinary surgeon. It has

therefore long appeared to your memorialists, that a proper and experienced veterinary surgeon should be appointed, with power to decide on horses suspected, either by the police or by purchasers, of being so disordered; and that the offenders should be taken into custody, and such horses detained, and, afterwards, disposed of as in your judgment may be determined.

“That such a measure would virtually put a stop to the present iniquitous trade of buying glandered horses in all parts of the country, and bringing them to Smithfield market, where they are fraudulently sold, bought back again for a trifling sum by a confederate, and resold again, perhaps, for many successive weeks, communicating this dreadful disorder, meanwhile, to numbers of sound horses in different stables.

“That on these strong grounds your memorialists rest, confiding in your anxiety to reform an admitted nuisance of this magnitude.”

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## THE VETERINARIAN, JUNE 1, 1840.

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*Ne quid falsi dicere audeat, ne quid veri non audeat.*—CICERO.

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WE had expected to have presented our readers, in the present number, with a detailed account of the success or failure of the Memorial; but the Governors, for reasons into which, perhaps, we have, at present, no right to inquire, have postponed their meeting from the beginning or middle of May to the first or second week in June. The claims of the profession have already been laid fully and fairly before the public; and it may be prudent and decorous not again to urge them, until we see the result of the conclave of the Governors. One thing, however, should be impressed on those whom it may concern. The number of signatures to the Memorial has considerably increased during the last month;—it is more than three hundred, and consequently includes a large majority of the profession: but there are many who have warmly expressed their approbation of the measure, who, from dilatoriness or idleness, have not sent the proper dispatches to Newcastle-under-Lyne. They will be sorry for it, when the battle is fought and won. We entreat them no longer to delay rallying round the post of duty. Every signature is now most valuable, as increasing the majority



to a phalanx that could not be opposed either with safety or honour. Our brethren on every part of the Continent are looking anxiously on, and ardently wishing success to the cause of science and of justice.

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## REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

**HIPPOPATHOLOGY.** Part I, Vol. II. **THE DISEASES OF THE AIR-PASSAGES, LUNGS, AND HEART OF THE HORSE.** By W. PERCIVALL, *M.R.C.S.; Licentiate of the Company of Apothecaries; Veterinary Surgeon to the 1st Life Guards; and Author of "The Anatomy of the Horse," "Veterinary Lectures," &c.*

RETURNING, and we hope, re-established health has permitted Mr. Percivall to resume his important task. We recognize the same correct view of the subjects as they pass before him; the same clear, terse, yet harmonious style of writing; and we trust that no return of the attack of those respiratory affections, of which he here speaks so truly and so well, will prevent him from speedily accomplishing his task, and gratifying the wishes of his veterinary friends and brethren.

The arrangement of this volume is perfectly new; and there is a great deal of matter of which the veterinary profession had scarcely heard or thought. The writer of this sketch can well recollect the time when a very superficial attention was paid to the indications of the pulse of the horse, and its changing and all-important characters. The period is still more recent, when he who attempted to ascertain the character and degree of the disease of the pulmonary organs by the application of his ear to the side or to other parts, was regarded with some degree of astonishment, or even with a degree of ridicule. There were a few—and one of the staunchest of them was our respected and valued friend John Field—who comprehended all the advantage to be derived from this method of exploration: and the character of the disease is often traced as accurately as if there were no interposition of integument or bone. And now we have a new and most interesting field of observation opened before us,—the exploration of the state of the heart; a subject which would seem to be beset with difficulties of every form and character, but which has yielded to diligent and sober examination, and can, if it has nothing else to give, present us with a map of the organ and its diseases, and our danger.

We will pass over *simple hypertrophy*, or the thickening of the walls of the heart and those varieties in which the walls are thickened, but the cavities, according to circumstances, either dilated or diminished, and speak of that whose essence is *dilatation*—the parietes unable to propel the blood—the muscular substance flaccid, and that flaccidity being one of the most striking appearances, when the pericardic cavity is opened after death.

Mr. Pritchard gives a most graphic account of a case of this kind in the mare. I have never seen it in the larger animals, but I have often observed it, and ought, long ere this, to have recorded it, in our inferior patients. In the lingering consumptive varieties of distemper in the dog it rarely failed to constitute one of the lesions, especially if the disease was attended by much emaciation, and of which emaciation this powerless state of the right ventricle was probably the cause. I have always been accustomed to regard this lesion as the consequence, and not the cause, of the disease. As the animal gradually sunk under the ravages of the disease, general debility ensued; and, among other indications of it, inability of the right ventricle to close with its natural power on its contents, and, the necessary consequence of this being a gradual yielding of the enfeebled parietes to the pressure of the unnatural quantity of blood, or, in other words, hypertrophy of the right ventricle of the heart.

But where I have had most opportunity of observing this disease is in the gardens of the Zoological Society of London. We have generally had a considerable number of quadrumana in our possession, and we have too soon lost the greater part of them. About one-fourth of them have died of intorsusception of the bowels, the cause of which we could never satisfactorily detect. It appeared not to depend on the food, for that had been unchanged; there was, probably, some atmospheric influence connected with the vile soil on which their domiciles are placed. We used to find *the intorsusception*, and, in the majority of cases, the inflammation not extending far beyond the invaginated part, although occasionally the greater portion of the small intestines, and even of the larger ones, was involved: but the heart was generally healthy. It was invariably so, except when the lungs began to exhibit the ravages of phthisis. Both auricles and both ventricles were of their natural size, firmness, and colour. If, however, we were about to examine the victim of phthisis, and we had long recognized him by his peculiar cough—his gradual, and at length fearful emaciation, and his pallid or rather exsanguineous countenance, the gaze on which was painful and not soon forgotten—then, in addition to the usual lesions of this dreadful disease, we were sure to find strange thinning of the right auricle of the heart. Its parietes lay

on the septum, in one, two, or even three folds; and it was, without much exaggeration, as thin as a wafer.

I have not, at present, any practical inferences to draw. I fear that I am describing the effect and not the cause of the disease. As to the diagnosis of the complaint, we have a valuable and unerring guide. It is true that we find no general serous infiltration as in the human subject—no local inflammation—no injection of the mucous membranes—no cerebral congestion—no palpitation of the heart—no evident liver affection; but there is the evident and rapid wasting, and the pallid countenance, which is impressed upon the mind for ever.

But I am writing an essay instead of a review of my friend's work. In the name of all my brethren, I thank him for this most interesting part of his work, and trust that we shall soon be favoured with another portion of it.

Y.

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A VETERINARY TOXICOLOGICAL CHART, *containing those AGENTS which are known to cause DEATH in the HORSE; with the SYMPTOMS, ANTIDOTES, ACTION on the TISSUES, and TESTS.* By W. J. T. MORTON, *Lecturer on Veterinary Materia Medica, &c.*

OUR indefatigable friend is again in the field, and supplying the young veterinarian with that which is of most essential use and service to him. It will occasionally happen, in the practice of us all, that valuable animals have been attempted to be destroyed by some miscreant about the stable, or that an over-dose of some useful but dangerous drug has been incautiously or ignorantly administered.

Not a moment of time is to be lost; the nature of the poison may be known, or it must be guessed at from the symptoms, and the antidote must be immediately employed.

The stomach of some valuable horse is, perhaps, brought to the surgeon. Poison is violently suspected. It may be necessary, for the satisfaction of the owner or the purposes of justice, that the decision should be immediate. No veterinary surgeon can carry in his memory the effect of every deleterious agent, and the precise tests by which the presence of that agent may be recognized, with whatever strange medley of substances it may be mingled. Then comes the value of a Chart like this, giving at one view the symptoms, antidotes, and tests. This gift is scarcely inferior to those with which he has already presented his veterinary brethren. No great time will pass ere it will be suspended in the pharmacy of every practitioner.

We scarcely know what article to select as a sample of the

Chart. We will, however, take the Corrosive Sublimate—a dangerous medicine, and by which many horses have been destroyed.

“HYDRARGYRI BICHLORIDUM, *Bichloride of Mercury, Corrosive Sublimate.*

“SYMPTOMS.—The effects which follow the administration of large doses of this salt resemble those which supervene when the mineral acids have been given, except that, generally, super-purgation is present, and the faecal matter is profuse and highly offensive. Its solubility renders it more energetic than arsenious acid, although it is not so frequently had recourse to for poisoning.

“The protochloride of mercury, *calomel*, when incautiously given, has also caused death, by inducing inflammation of the mucous lining of the intestines, accompanied with violent purging and tenesmus.

“TREATMENT.—The white of eggs suspended in water, the albumen of which renders the bichloride of mercury insoluble; or large quantities of wheat-flour, or milk. Iron filings have also been advocated, which, reviving the metallic mercury, may be expelled by purgatives. A free use of diluents is necessary. The treatment of the salivation, which sometimes supervenes, consists in exposure to cool air, the exhibition of saline purgatives, and nourishing diet.

“MORBID APPEARANCES.—These would closely resemble the effects produced by the above agent, the mucous lining of the alimentary canal being intensely inflamed throughout, its texture destroyed, and in parts corroded. The disorganized tissue often contains the poison, which it yields by analysis.

“TESTS.—*Lime-water*, which throws down an orange-yellow precipitate, *the hydrated binoxide of mercury.*

“*Iodide of potassium*, which gives a beautiful scarlet compound, *the biniodide of mercury.*

“*Protochloride of tin*, which first affords a whitish precipitate, *the protochloride of mercury*; and, on adding more of the test, a greyish-black powder is formed, which consists of minutely divided *metallic mercury.*

“*Sulphuretted hydrogen*, which gives a blackish compound, *a sulphuret of mercury.*

“To these may be added the test *by reduction*, the reducing agent being the protochloride of tin, assisted by heat.

“Albumen is not now relied on as a re-agent.”

We have only one thing of which to remind the author,—that when cattle practice is fully and fairly taught at the Veterinary College, and more is known of the effect of different medicines on cattle, we shall look to him for an extension of this Chart to every animal that can be injured or benefitted by man.

ILLUSTRATIONS OF THE BREEDS OF THE DOMESTIC ANIMALS OF  
THE BRITISH ISLANDS. Part II. *By* DAVID LOW, *Esq.*,  
*Professor of Agriculture in the University of Edinburgh.*

WE had intended that a review of this number of Professor Low's splendid work on British Cattle should have appeared in our last number, but a sudden and unexpected influx of matter connected with the veterinary art at Edinburgh prevented it. We now turn to it with increasing pleasure, for we have had time, again and again, to peruse it, and to study the beauties of the plates.

We have nothing to do with the hypothesis as to the factitious origin of the sheep, for to him this brochure is devoted. We only know that he was coeval with the creation of man and the descent from the ark; and that there is reason to believe, making allowance for the effect of time and climate, cultivation and neglect and caprice, he is the same now as in the earliest periods of his domestication.

We are first presented with a ram of the original breed from the islands at the north of the Pentland Firth. The soil is cold and wet; scarcely a tree is to be found, or even a plant beyond the heath that covers the soil. He looks like the inhabitant of such a place, feeding on sea-weed and on fish, when nothing else can be obtained; furiously contending with his companions, and the male seeking out the female and her young one, in order to destroy them—an effectual but horrible way of preventing the multiplication of their numbers beyond the means of subsistence. In the same plate is portrayed an ewe of the same extraction, but of a more modern breed, from the Island of Rousay. In the second plate we are introduced to the Aborigines of the higher Welsh mountains in the neighbourhood of Glamorgan. They seek the summits of the mountains, vault rather than run, and feed on the dry aromatic plants of the mountains in preference to the herbage of the lower valleys. These are one variety of the sheep whose carcasses are so much prized in the metropolitan market. By way of contrast, portraits of two improved sheep of this breed are given. The effect is considerable, and on the lower ranges of mountains might be worth trying on a large scale. As for those of the higher ranges, there is nothing about them to induce the proprietor to expend much time or capital in cultivating them.

The soft-woolled, white-nosed sheep, so many of whom are driven to the London market, figures in the next plate; and the old Radnor sheep, with her long and soft hair, so admirably adapted to the manufacture of flannels, occupy the third plate.

In the fourth we are transported to the Wicklow mountains, with the portraits of a ram and ewe of which we are presented. They are admirable likenesses. They are more valuable, since the system of crossing with the South Downs has been lately introduced, and is rapidly spreading. It has, certainly, effected very considerable improvement, both in the wool and the carcass. The portraits of the old Wicklows, from the mountain and the vale, will, by and by, be considerably prized. Y.

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An advertisement of a work on the Foot of the Horse, by Mr. W. C. Spooner, of Southampton, occupies a portion of our cover. We have had the opportunity of seeing the first sheet, and we think that the performance will be worthy of him and of his subject.—Y.

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CATTLE PATHOLOGY. By R. B. GELLÉ, *Professor at the Veterinary School at Toulouse.*

[Continued from page 304.]

HERNIA OF THE SECOND STOMACH.—We find in the *Compte Rendu* of the labours of the Veterinary School at Alfort, during the scholastic year 1809-10, the following unique fact:—A cow, twelve years old, was destroyed for dissection. She presented an example of hernia of very considerable size, and which penetrated through the diaphragm, and was lodged in the thoracic cavity. The opening through which it passed was above the abdominal prolongation of the sternum. It was round, and nine inches in diameter. It had pressed forward almost to the pericardium, but was confined to the surrounding parts by an abundant laminated tissue, which had not undergone any alteration.

This old displacement—for so it seemed to be—of the reticulum proves that hernia has little or no influence in the discharge of the functions, if there is no strangulation. It would, nevertheless, have been curious to have observed, whether respiration was not disturbed by the presence of this stomach in the thorax, and whether the dilatation of the lungs was not materially interfered with.

In this case of displacement of the reticulum, and in which it was removed beyond the influence of the diaphragm and of the abdominal muscles, do we not also find a proof that the contraction of the fleshy membrane of the stomachs and intestines is the primary and active power which presides over rumination, so far as the passage from one stomach to another, and the different phenomena of motion, are concerned in digestion, and that the diaphragm and abdominal muscles are only auxiliaries?



*Gastro-enteritis*.—*Inflammation of the Abomasum and of the small Intestines*.—Inflammation of the fourth stomach or abomasum of ruminants, with that of a greater or less portion of the *small intestines*, constitutes the *gastro-enteritis* of pathologists. This malady, of which some pathologists have almost denied the existence, is not the less real and fatal. Professor Toggia, whose opinion is of great authority, says, “Inflammation of the stomach and of the intestines is a disease which attacks all animals, but more especially the bovine race, and in which the cure of it is exceedingly difficult, on account of the peculiar structure of the digestive organs, and the quantity and quality of the food which they contain; circumstances which enfeeble the action of the medicines, the effects of which are only slowly sensible.”

This disease consists of *gastritis* and *enteritis* united, as the name *gastro-enteritis* indicates; for the causes which produce gastritis do not always confine their influence to the stomach; they can extend their action even to the small intestines, and particularly to their gastric and duodenal portion. The same influence may be recognized even in the abomasum. The symptoms of the disease often plainly demonstrate this extension of inflammation from the stomach to the intestines, and from the intestines to the stomach. In the latter case, particularly, it commences with diarrhoea, colic, &c. &c.; and in the first, by anxious thirst, headach, heat and dryness of skin, yet rarely by vomiting in herbivorous ruminants; but if the extension of the inflammation from one of these viscera to another takes place in the course of the disease, the symptoms are not so acute.

We have already said, that this disease is one which most frequently attacks the bovine species, and that it is, of all the pathological affections to which they are liable, the most difficult to describe or demonstrate in a lucid and positive manner.

These propositions are the more evidently founded on truth, since gastritis is rarely a simple disease. It is a subject which we approach with considerable caution. It will be very important, as it regards the diagnosis, to be enabled to isolate and to recognize the diseased state of the abomasum or veritable stomach in the ruminants from that of the duodenum; but this distinction is very difficult between organs whose functions are so analogous. There is the same prostration of animal power—the same vascularity from one common origin, and the symptoms of disease most closely resembling each other. In truth, many anatomists have thought the duodenum entitled to be considered as a second stomach, in which the act of chylification is performed. Besides, this intestine presents in all animals one especial form, one reflexion, one concavity, and certain curvatures which cannot be confounded with the

fourth stomach, nor with the rest of the small intestines, since it is limited and separated by the pyloric and intestinal openings—since it receives the excretory canals of the pancreas and of the liver, and its mucous membrane is the seat of a follicular and perspiratory secretion more abundant than in any other part of the intestine. For these reasons, and on account of the importance and the speciality of their functions, it is difficult, in the actual state of the science of veterinary diagnosis, to separate the description of gastritis from that of duodenitis. We therefore think ourselves authorized in comprehending them in the same *tableau*; besides, every distinction on this subject would be useless, since the two maladies require the same treatment. We shall also see, that in the greater number of cases the physiological observations coincide with those which pathology suggests.

Some persons will, perhaps, be surprised that we have not devoted separate articles to the diseases of the *reticulum* and those of the *manyplus*, before we described those of the abomasum; but we have no certain and positive history of the diseases of these stomachs, or whether, indeed, they are susceptible of being separately inflamed. Medical science is yet deficient on this point; nevertheless we shall see, by and by, that inflammation of the manyplus is sometimes a consequence of that of the paunch, as well as that of the abomasum, and that inflammation of the third stomach occasionally produces a serious complication of disease by the fact of the drying and hardening of the food which it contains, and the pressure which it exercises on the œsophagean canal.

It will be right, perhaps, in order to treat methodically the subject of gastro-enteritis in ruminants, that we should point out the divers and numerous causes by which it may be produced—the nature of the inflammation—its acute, sub-acute, and chronic states, and also its simple and complicated state, and all the shades of difference which make the diagnosis and the cure more or less difficult. These descriptions will always be founded on practical facts.

The *causes* of these affections are sometimes inappreciable, and their action depends on a great number of circumstances, and of individual predispositions, the nature of which escapes our closest investigation. In the majority of cases, however, if we closely examine the patient, the cause will be sufficiently plain. The lymphatic temperament of the ox—the peculiar structure of his stomachs—the immense quantity of food which they often contain—the peculiar mode of digestion, these will generally afford us some clue to the predisposing cause of the disease, especially if the animal is in a state of domesticity.

This portion of our subject, however, requires deeper consideration. The causes of gastro-enteritis are,

1. Those which act directly on the villous portion of the gastrointestinal mucous coat, such as food, drink, medicine, among which we may reckon acrid, stimulating, and heating plants; hard and woody food, difficult of digestion, as the sword-grass, the iris, several species of the rush, and the reed. It is not always necessary to hold, with Chabert, that these plants are acrid and stimulating—they are simply food that is difficult of digestion and assimilation. The upright and the celery-leaved ranunculus (*acris et sceleratus*) are much more dangerous than those that grow on a wet land, and in rainy seasons. If they are used when green they are a veritable poison; but when eaten dry, they are less deleterious, although they sometimes produce enteritis and diarrhœa, which, however, yield to proper treatment. All these accidents disappear if better food is given to the cattle.

The colchicum is also an acrid poison which animals rarely eat when green, unless they are pressed by hunger. These plants, however, are too frequently the cause of gastro-enteritis, and entero-nephritis, which too often bid defiance to all medical care.

Food badly gathered, and saturated with dirt and mire, or mouldiness, or mildew, or in any way damaged, or more or less rotten, and which the animals are compelled to eat in times of scarcity and during a severe winter, either from the bad management or misfortune of the proprietor, have a much more ready and deleterious influence on the mucous membrane, and are mischievously active on animals whose organs are weakened by starvation and misery. These aliments are also difficult of digestion; they accumulate in the stomach, acting slowly and imperceptibly at first, but at length producing frequent and continued indigestion. Then commences the extrication of gas, which distends the digestive organs, and determines a general or partial emphysema that complicates the gastro-enteritis with an adynamic state of the constitution, and accompanied by crepitating tumours of a gangrenous nature.

Green food taken from artificial meadows, or papillonaceous plants, also fodder freshly collected, and from which carbonic acid gas disengages itself, meteorize the rumen, and sometimes produce secondary gastritis; and if the super-excitation of the rumen is prolonged by the continuity of the action of the cause, and which itself reacts strongly on the nervous system, gastritis becomes complicated with arachnitis and vertigo.

Aqueous and cold food covered with dew, or with white frost, has sometimes a prompt and sudden action, which produces hæmorrhage from the intestines, or gangrene by excess of inflammation, and, most of all, abortion in the cows. Such is also the effect of water imbued with much selenite, and particularly cold water drawn from wells or fountains, or mineral streams, especially

taken while the animal is hot ; or muddy water, or that which is corrupted, or holds in suspension the remains of vegetables or of insects in a putrifying state—these act like corrupted and poisoned food. They irritate and inflame the gastro-intestinal mucous membrane. The absorption of chyle which they produce, and its passage in the circulatory current, determine an alteration of the blood, which is no longer misunderstood in our days—an alteration, the effects of which manifest themselves not only on the internal tunics of the heart and bloodvessels, but also on the nervous centres, whence tonic medicine, stimulants, purgatives administered at improper times, may change a simple gastric affection, a slight inflammation of the mucous membrano-stomach and intestines, into a gastro-enteritis serious, acute and mortal, by the super-excitation which they determine : for purgatives, if they do not produce alvine evacuation from the ox, are sure to excite inflammation of the intestines. It is to the employment of the neutral salts and minor purgatives that we should have recourse when any thing indicates the propriety of purging.

2. A cold and humid temperature, sudden suspension of the perspiration by means of a cold wind charged with moisture, or long continued rain or snow—these are so many causes of gastro-enteritis, especially if the animals are submitted to their influence while an active perspiratory process is going forward, and during either work or repose. The act of reposing on a humid soil after fatiguing exercise has the same result. The custom which agriculturists have, of unharnessing their cattle in the open air on their return from labour, of leading them to the drinking troughs, and then turning them into the pasturages at whatever time of the evening it may be, and to whatever state of excitement and perspiration the animals may have been driven, is likewise a frequent cause of gastro-enteritis. All these refrigerating causes act at once upon the skin, the capillary structure of which is then less easily traversed by the blood, which is necessarily repelled towards the centre. The cutaneous transpiration no longer existing, it results that the organs in sympathetic relation with the skin, such as the mucous and the serous membranes, should supply this function, and thence results gastritis, bronchitis, pleurisy, pneumonia, according to the predisposition of the individual : for, the interior membranes, overwhelmed by the sudden collection of these fluids, and irritated by the congestion which they occasion, become inflamed with so much the greater intensity as the subject possesses the power of vital re-action ; and if this fluxion continues, it necessarily determines a state of fever, more or less intense, in proportion to the individual vitality of the patient. Sudden variations of the atmosphere, from hot to cold and from dry to humid cold, produce the same effects ; while a warm and humid temperature

may cause gastro-enteritis by diminishing the vital energy, and causing in all the tissues a remarkable debility, by inducing in the digestive organs an extreme want of power, which renders the elaboration of the alimentary matters slow and imperfect. These maladies uniformly take on a nervous and adynamic character, especially if this atmospheric constitution continues some time.

3. Gastro-enteritis is sometimes produced by certain vivid impressions, which modify and alter the circulation and the state of the nervous system, and suspend and arrest digestion. Such are the fear caused by a thunder storm; and the attack, or almost simply the sight, of a carnivorous animal, as the wolf: also a surgical operation, or any other cause of great pain. Labour beyond the strength of the animal, and exacted immediately after feeding or rumination or digestion, produce the same effects. The mass of ingested food becomes then a foreign body, which fatigues and irritates the stomach and the intestines, and determines all the accidents which constitute indigestion and gastritis.

4. Blows or violent kicks on the abdomen may also cause inflammation of the digestive organs.

Finally, there are few maladies of other organs of a serious character which do not complicate themselves with the consecutive symptoms of gastritis, by the simple effect of the disturbance which then exists in the circulation and in the nervous system.

One very frequent cause of inflammation of the stomachs and intestines of the ox is the privation of green food, and the constant and exclusive foraging on hay or straw; for the ox naturally prefers, and, indeed requires, that the latter kind of food should be alternated with green or aqueous plants. We may also remark, that gastro-enteritis is very frequent at the close of long and rigorous winters, during which the oxen are constantly fed in the stable, and on straw of various kinds, perhaps even on chaff, with a very little hay. The knowledge of these practical facts becoming more extended and more appreciated every day, has determined many intelligent agriculturists to cultivate as food for oxen, cabbages, turnips, beet-roots, potatoes, field-parsneps, and the early greens of the spring, in order that they may be able to supply their cattle with green food at all times, and to alternate it with that which is dry. By these precautions a great number of diseases are avoided.

It remains for me to say a few words on indigestion and gastritis, which are sometimes confounded. Indigestion may be either the cause or the effect of gastritis. In hoove, indigestion is essential; if the hoove is followed or complicated with inflammation of the digestive mucous membranes, indigestion is the cause of gastritis. If inflammation of the abomasum is primitive, and there is also meteorization of the paunch, or cessation of rumination, gastritis,



or even enteritis, is the cause of the indigestion, which is only secondary.

Among the most constant symptoms of inflammation of the gastro-intestinal mucous membrane is the loss of appetite in all animals, and the cessation of rumination in the ox. We ought to consider this phenomena as a sage precaution of nature, which thus prevents the ingestion of aliments which the stomach is not then susceptible of converting into chyme; for observation proves that even during convalescence the least wandering from a proper regime will produce the most fatal results.

If the inflammation is intense, the tongue seems to be contracted, and is evidently straighter and more rounded; the papillæ which cover it become erect and injected; the tongue itself is red towards its point, and also at its edges.

In certain intense cases of gastritis, and in some serious affections of the paunch or the abomasum, the duodenum and the liver participate in the inflammation, and the tongue is yellow or green. This colouring sometimes extends to all the visible mucous membranes.

Vomiting, which can only take place when there has been primitive or secondary affection of the stomachs, denotes almost always a very intense inflammation, either most commonly continued from the abomasum and the pylorus, or also from the œsophagean canal. Thus it is constant in chronic gastro-enteritis, and rare in acute. Nevertheless, if one part of the food is vomited, and the other passes from the abomasum into the duodenum, it is to be presumed that the seat of the inflammation principally exists in the abomasum.

The diminution and even the cessation of the secretion of milk, constant in cows labouring under gastritis, is only the result of the displacement of the vital action of the secretory organ, in consequence of the violent inflammation which attacks the mucous membrane of the digestive organs.

Finally, the digestive sympathies exercise so great a power in the living economy, especially in a state of disease, that we shall see inflammation of these viscera producing either a state of lassitude or of want of power, or of utter prostration of strength, according to the greater or less degree of their intensity.

From that which I am about to state, it will appear that inflammation of the gastro-intestinal mucous membrane, like every other kind of inflammation, may present itself with different degrees of intensity; that it is especially modified by some individual nervous power, and by the greater or less degree of particular and special animal heat. Thus it is less acute among cachectic animals than among those of a lymphatic temperament and feeble vital energy.



## VETERINARY JURISPRUDENCE.

THE BIPED *v.* THE QUADRUPED DOCTOR.

WE condense the following trial from a provincial paper. The names of the parties are immaterial; we state the facts as we find them. Mr. A—, a respectable surgeon, wants a horse: it is to be a good one, but it is not to cost much money. At length he hears that there is one that will probably suit him at the stables of Mr. B—, a veterinary surgeon, and he summons his friends, Messrs. C— and D—, also surgeons of eminence, and they meet in conclave deep to determine this important affair. The price is £20. They like the horse, and they offer £16. The vet. is obstinate; he will have £20, and, obtaining that, he would take back the horse at the end of a month, if there was any unsoundness about him, or he would allow such a portion of the price as Mr. D. should think was proper; but he would not part with him for less than £20. At length a compromise takes place. Mr. A. gives £18, and purchases the horse; and then comes a question, Does this £18 include the warranty and the power of return?

The bargain is made, the money is paid, and Messrs. A. and C. drive away to Mr. A.'s residence. Mr. C. says, that on the journey he thought the horse vicious, and had doubts whether he was sound; and he also adds—but it does not appear in evidence that he makes the slightest remark of this to any one at the proper time—that “he observed at the stable that the horse had cracked heels, and he thought that any one might see that something was the matter with him.”

This was on the 20th of March. On the 26th, the horse not proving satisfactory, he was sent back to Shrewsbury, in order to be left at the defendant's residence. Mr. B. refused to take him in, and he was taken to a livery stable. Mr. B., however, sent to D— immediately, telling him that the horse was returned, and asking him what portion of the price, or whether any, should be refunded. The reply was, “Not a stiver; the price you asked, and for which you engaged to take him back, was £20: no promise was made to do this for £18.”

The plaintiff also went to Mr. D. to ask what sum he should demand, and received precisely the same reply,—that he had no right to demand any thing, for he had not given the sum on the condition of which this power was to have been granted.

The other medical gentleman, however, Mr. C.,—who acknowledges that he was at the farther end of the passage when the bargain was struck, and who was standing in the street when the other parties came out,—distinctly swears that he heard the power given to return the horse, a certain sum of money, as might be determined on by Mr. D., remaining in the hands of the seller.

There is no necessity for any impeachment of this gentleman's veracity; but, standing at that distance, and in the door-way leading to the street, and hearing indistinctly, he confounded the conditions of the two bargains for £20 and for £18.

On being applied to again by the agents of the plaintiff, and armed with the opinion of Mr. D., the defendant incautiously exclaimed that, "He had got the money, and Mr. A. might keep the horse."

Thus, so far as the matter of buying and selling went,—the money being paid and no warranty given—the plaintiff had not a leg to stand on. A certain imputation, however, rested upon him, from which he was naturally anxious to free himself. The ostler of the stables at which the horse was left stated "that the shoes of the horse were in his heels a good deal, as if he had been shod for a fortnight or three weeks. The heels were cracked and running—he was lame of both fore feet, tender, and went foundered. He was there more than three weeks. The ostler exercised him, as he thought was right, for ten or fifteen minutes every day. The shoes were not retouched, but the heels all got right, and healed up, and he was finally sold by auction for £15.

Two veterinary surgeons of deserved eminence were then called: we wish that we could announce them by their proper names.

The first had looked at the heels of the fore feet of this horse. There were chops in the skin, but there was nothing of importance—could not say whether this had not produced lameness at an earlier period. Acknowledged that while under temporary lameness or tenderness a horse could not be considered as sound. But cracks in the heels do not constitute unsoundness; and a horse may be sold this week quite sound, and not able on the next week to get out of the stable. The horse was now sound, and well worth eighteen pounds.

The other stated, that when he examined the horse immediately after his return from the plaintiff, he found him perfectly sound. There was a little crack in one of the heels, and a great deal of scurf and dirt from bad grooming. This would account for the crack. If a horse has a predisposition for grease, and is neglected for a week or ten days, he is likely to have the grease. Bad care and bad grooming make many a healthy horse bad.

A farmer and miller stated, that his son bought the horse at the sale for fifteen pounds, and rides him now. He has been regularly worked now nearly twelve months; has had no grease, is in fit condition for work, and he would have given twenty pounds or guineas for him.

Thus ends this foolish affair. There was no necessity upon earth for an action of the kind—no *locus standi*. One good effect will be produced, the plaintiff will be cleared of every aspersion.

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A CASE OF GLANDERS IN THE HUMAN BEING.

*By Dr. BARHAM, of Truro.*

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Truro, June 10, 1840.

[My dear Sir,—Inclosed you will receive the report of a case of glanders in a man of the name of Joseph Pascoe, communicated by Dr. Barham. I had no opportunity of examining the horse; but I am assured from the farrier that examined him, that it was a case of chronic glanders.

The young man was in the habit of wiping or cleansing the affected nostril with his pocket handkerchief, to prevent persons seeing the discharge; and the disease was certainly communicated to the membrane of the nose.]

W. F. KARKEEK.

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I WAS called, on the 3d of April last, to visit, in conjunction with Mr. Ferris, an experienced surgeon of this town, Joseph Pascoe, aged 22, of tolerably robust constitution. I found him in the following state:—

His face was bloated and swollen, with a blush of dusky red on the right side. The right eyelids, the upper especially, were very much swollen, infiltrated with serum, and of a rather livid hue. Punctures had been made in the upper and outer portion of this swelling, and in these points small ulcers, discharging a sanious pus, were formed. The eye was, in consequence, entirely closed, and a thick muco-purulent discharge exuded from within the lids. On the left side the swelling was less. A gluey, semitransparent secretion presented itself at the left nostril, but did not escape in any considerable quantity. The voice was thick and hoarse, and the throat sore, so that deglutition was painful. There were bright erythematous patches, with diffuse swelling, in several spots,

the largest being above the right knee (which had been very painful, and was still tender on pressure), and on each instep. No portion of these patches was hardened or circumscribed; their surface was rather glossy, and the redness readily disappeared under the touch, re-appearing as quickly. No other form of cutaneous eruption was visible. He was capable of answering questions collectedly, but speedily relapsed into the soporose state, with muttering delirium. In this state he generally lay; and his sensibility to pain was, no doubt, greatly blunted, and the particulars of his suffering not very clearly to be ascertained at this stage of his disease. Paroxysms of excitement now and then occurred, during which he endeavoured to leave his bed. He did not complain of pain in the head. The breathing was oppressed and hurried, with mucous rhoncus at times. The abdomen was very tympanitic; the bowels rather confined.

Turpentine was administered by the mouth and in clysters, and copious dark offensive dejections, with free discharge of urine, took place. The tympanitis subsided in great measure, and he subsequently took several doses of a mixture containing creasote. His state, however, became gradually worse. The delirium was in the course of the night more violent, so that he was kept in bed with difficulty; and, on the following morning (April 4th) the swelling had extended to the left eyelids, and on the right side it had assumed a dark livid hue, in parts nearly black; the discharge from the left nostril was slightly tinged with blood. The delirium was much the same in character and degree as yesterday. I observed that, in his mutterings, he had frequent reference to horses. In the course of the day the coma became more complete, and he died in the evening, without any further change in his symptoms.

It appeared that he had been affected for about a fortnight with pain in the loins, lassitude, chills, and other feverish symptoms, which were referred to a mild form of "influenza," then prevalent. The subsequent sore throat and erysipelatous inflammation of the eyelid were not sufficiently peculiar to have excited much attention.

The "ensemble" of his appearance and symptoms led me immediately on my first seeing him, though knowing at the time nothing of his history or occupation, to suspect the influence of some animal poison on the system; and as the contagion of "glanders" was that to which he might most probably have been exposed, I directed my inquiries, in the first place, to this point. I then found that he had been employed as driver of a van, and that one of his horses had been for many months diseased, and affected with a discharge from the nostril, and that he had attended the horse closely, and had been in the habit of wiping away the discharge.

Before his death, I was informed by his father that he had seen the horse snort out a quantity of this secretion into the middle of his son's face. I examined the horse, which was stated to have been latterly improving in health. It was not much out of condition, but had still a discharge from one nostril, and also some small hard tumours inside the lower jaw. It was considered by the farrier to have been for a long time decidedly affected with glanders.

The young man had complained since Christmas of lassitude, and pain in the back and limbs, which he attributed to exposure to cold and wet. His voice likewise had been rather husky, and there had been some discharge from the nose, giving him what he called "the snuffles."

It seems probable that the disease was communicated through the Schneiderian membrane, or perhaps through the conjunctiva; no wound, abrasion, or local affection, indicating any other origin having been noticed by the patient or his friends.

The discharge from the nostril, and the infiltration of the eyelids, together with the irritative fever, were common to this case with all the others to the records of which I am able to refer. The absence of all pustular or tubercular affection of the skin is unusual, but analogous to what is commonly observed in the effects of wounds received in dissection.

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## REMARKS ON UNSOUNDNESS.

*By Mr. JOSEPH CARLISLE, Wigton.*

ON perusing the last VETERINARIAN, my attention was drawn to an article headed "Observations on Unsoundnesses not Named," by Professor Stewart, of Glasgow. He commences with sprains of the extensor pedis of the hind leg, or rather the tendon, not the muscle. The learned Professor describes the seat of this disease to be midway between the hock and fetlock joints on the front of the leg. To the eye it has the appearance of being the effect of a blow; but this he says, on examination, is not the case: it is a swelling on the tendon produced from the knuckling of the pastern, I suppose forward; but the *modus operandi* he has not defined.

I have frequently met with this disease in my practice, both in the hind and fore legs. It is situated more towards the inferior parts of the metatarsal and metacarpal bones, a little superior to the expansion of the tendon extensor, and immediately under the strong ligamentous expansion that binds the tendon down to the bone.

At this place is situated a bursa mucosa, and, from some severe tension of the tendon produced by the sudden knuckling forwards of the pastern, the ligamentous and tendinous expansion forming the connecting medium to the parts becomes ruptured—a degree of inflammation is set up, and the secretions of the synovial bursa are morbidly increased; consequently a large swelling, or large tumour partly solidified, is the result, and which sometimes increases to a great size.

In two or three cases of this kind which came under my treatment, I punctured with a lancet, and evacuated the contents of the bursa. This must be done after the inflammation has subsided, and before the tumour becomes partly solidified. At the same time a blister should be applied. This practice I have adopted in joints opened by accident, and find it generally to succeed.

I do not agree with Professor Stewart when he says, that it is the tendon which is sprained or injured. It is not the tendon, but its investment which is ruptured, and bursal distention supervenes. It is most frequent in cart-horses, and, like all other bursal diseases, does not always produce lameness.

There is another disease common to field horses and roadsters, which I never saw mentioned in veterinary works, viz. *ossification of the inner lateral ligaments of the fetlock*, which may be the result of a blow in timber leaps; but I think it more likely to be the effect of hard work. I think, also, that concussion may have something to do here, as the ossification is always situated on the inner anterior and lateral parts of the fetlock, and the short articular ligaments are generally the seat of it.

The best treatment for ossification of the ligaments of the fetlock consists in the application of the actual cautery—the instrument being formed like the French budding-iron, but not so large, as the strong heat contained in the budding-iron used in France, from its great substance, is injurious to the surrounding parts. The iron should be tapered to a point, and the thickest part should not exceed an inch in circumference. The punctures should be through the skin, and embrace the whole ossific deposit. A portion of blister ointment must be applied at the same time.

When it is necessary to cauterize the skin of any poor animal, I think the budding-iron is the best, the most effectual, and *humane*.

P.S. The extract of belladonna is an excellent medicine for dilating the os uteri.

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ON ROARING—THE SUMMERING OF THE HUNTER—THE  
 SUBJECT OF ROARING RESUMED—THE BLISTER AND  
 THE CAUTERY—COLD APPLICATIONS TO THE LEGS—  
 CURBS—DISTEMPER IN DOGS—SHOEING—THE FROG—  
 SHOEING RESUMED—THE BOARD OF EXAMINERS—THE  
 CAUSES OF GLANDERS.

*By* NIMROD.

Dear Sir,—ANXIOUS for the success of your profession, and especially so in reference to its services to the sporting world, I give you the result of my observations of the state of several hunting studs which I saw in my late tour through what may be called the crack hunting countries of England.

I will commence with Melton Mowbray, where I sojourned three weeks and better, consequently had an opportunity of seeing all the best studs, as well as the pleasure of riding several first-rate hunters. In the first place, I am happy to say, there has been this year a diminution in the number of roarers compared with that of the last two years; but still the insidious disease has not been quite inactive. The best horse in the Duke of Beaufort's stud—Freemartin, for which his Grace last year refused five hundred guineas from Lord Chesterfield—has fallen a victim to it, to the great mortification of his noble and worthy owner. It may be recollected by some of your readers, my stating in the account of my *last year's* tour, that I had ridden a mare of Mr. John Shafto's, as likewise a very promising five-year old Confederate horse of the Rev. Mr. Wing's, of Warnsworth, both in Earl Fitzwilliam's countries, and that, from a peculiar style of breathing, I gave it as my opinion, that both would become roarers. My prediction was confirmed by their owners, whom I met this year in the field. One day in the past season, with the Quorn hounds, I rode an exceedingly clever young horse, out of the stable of that first-rate sportsman and horseman, and a Meltonian of twenty-six years' standing, Mr. John White; and the question of "How do you like your horse?" was put to me by himself at the end of rather a sharp burst, in which he carried me delightfully over a strong country. "He is every thing that could be wished for," was my answer; "but I hear a little sound in his breathing which I do not like, and I fear he will be a roarer." "Exactly so," said Mr. White; "I have my fears on the subject, and as such I shall not keep him for another season."

Now a question arises: Would not the first appearance of this "*little noise*" in the breathing—I scarcely know how to describe it, but it approaches a smothered whistle—be the time for active measures to be pursued with a chance of arresting the progress of the disease, which must surely now be in its incipient state?

Would gentlemen, immediately on hearing this noise or peculiarity of breathing, apply to their veterinary surgeon for assistance, I cannot help thinking many a good hunter might be saved from what, to him, is generally tantamount to destruction. And yet, how extraordinary is it that the degrees of obstruction to breathing in roarers are so great that, in some cases, horses so affected cannot go to hounds at all; and in others, neither pace nor country will stop them, as long as other (sound) horses can go. That fine, straight-forward horseman, Mr. Peyton, rode a roarer last season that not one sound horse in a hundred can beat. This fact tends to strengthen the opinion of Mr. Turner, corroborated indeed by one satisfactory experiment, that the cause of the noise is occasionally seated in the nostril, and not in parts more materially connected with the action of the lungs, such as the trachea, &c.

I am happy in being enabled to say, that the in-door system of summering hunters is now become almost general. In fact, it may safely be asserted, that what is called the grazing system is abandoned in ninety-five studs out of a hundred throughout Great Britain; and amongst those of Leicestershire and Northamptonshire I could only hear of two instances of hunters so treated; and the evils of it were apparent in their condition, even at an advanced period of the hunting season. With some hard-riding men, indeed, the in-door system is carried to the highest extreme. The hunters of Lord Gardner, for example—if not the hardest, one of the hardest riders of the present day—never quit their *stalls* the summer through, unless for the purpose of exercise, which they daily enjoy; neither do they eat green meat, with the exception of a little, now and then, mixed with their hay. The splendid stud of Mr. Folgambe is treated nearly on the same plan. It is kept in condition throughout the year; and I think he might challenge all the sporting world to produce horses that have carried himself and his whippers-in so many consecutive seasons as some in his stables have done. One of them has carried himself fourteen seasons, and, barring accidents, will be ready for him next season (I now speak from ocular demonstration, having visited Mr. F. in April last), and worth three six-year olds, with their system overladen with grass fat, and proportionably deficient in muscle.

In the beautiful Oration of Mr. Morton, in your number for January last, the evils of the grazing system—the *scelera graminis*, if I may be allowed to call them such—are so clearly and fearfully exhibited, that the very perusal of the detail of them would deter any reflecting person from subjecting his horses to the hazard of them. But, putting aside the evils arising from the debilitating and digestion-destroying effects of grass, what reflecting person could expect any thing but mischief from atmospheric influence to horses turned out from their warm and regularly-ventilated sta-

bles into the open fields, both by day and by night, during the present spring, when the thermometer has often been above 100 of Farenheit, in the sun, by day, and within a few degrees of the freezing point by night?

In the number of THE VETERINARIAN to which I have just alluded, I read with great attention (as indeed I do any thing from his pen) Mr. W. Percivall's Essay on Roaring; and have a few remarks to make upon it. He pronounces it not to be a disease, but a consequence of several diseases, which he specifies—all of which are, for the most part, caused by atmospheric agency. But may I be allowed to ask, how happens it that horses do occasionally become roarers without exhibiting the *slightest appearance of disease*? The Duke of Beaufort's groom shewed me two horses that became roarers in the middle of the season, while in regular hunting condition, and in the enjoyment of the best health; and Lord Segrave's groom told me of another similar instance in his lordship's stud. The late Lord Forester's Bernardo, for which he refused eight hundred guineas, was similarly affected during a six weeks' frost when he was in a high state of health. Neither Mr. White's horse, nor that of the Rev. Mr. Wing, was afflicted with any disease that could give a tendency to roaring, previously to the sound in breathing in each, which denoted the coming evil. It appears to me to be but too apparent, that a thickening of the membrane, sufficient to produce roaring, does occasionally take place spontaneously, as it were, and not as the consequence of any peculiarly marked disease. The observation of Mr. Percivall, that mares seldom become roarers, is a startling one; but, no doubt, it is founded on truth. With the exception of Mr. Shafto's mare, and a young one, the property of Mr. John White, that he now uses as a cover-hack, the only roaring mare that I ever knew or heard of was Mr. Kellerman's Mary, by Precipitate, who, as I have more than once stated on former occasions, produced three roarers by three different stallions.

I have one more remark to offer on this interesting subject. Mr. Percivall says, that most experienced horsemen are aware that roarers made to gallop fast become whistlers, and, pushed to their utmost speed, lose even their whistling noise. My experience does not enable me to corroborate this assertion. I have ridden alongside many roarers in the field, but cannot charge my recollection with ever having heard any thing approaching to a whistle, although I have seen them in distress. I had a hack that roared aloud in deep ground or against a hill, and the faster he went the more he roared. The season before the last I rode a roarer of Mr. White's with the Belvoir hounds, but heard nothing beyond a lengthened roar in the act of inspiration, which I considered as

evidence of distress. This horse was a brilliant hunter and in the prime of life, but he could not go more than ten minutes at a good pace over a country. On the other hand, and in the same season, I rode a horse called Swing, belonging to Lord Segrave, whose loud roaring did not much affect him. The country was deep and strong, and the pace good, for nearly half an hour. All I have to say of him is, that the further he went the louder he roared, but no whistling. I am, however, assured by an old sportsman, that the whistling sound is occasionally heard from roarers when greatly distressed for wind. But, after all, what matters it whether a roarer *whistles* or not? The grand questions are,—What is the preventive? and if no preventive, Where is the cure? Mr. Percivall enumerates eight predisposing causes, but, with a modesty that always accompanies acknowledged ability, does not profess to find the remedy. “Our art,” says he, “is not sufficiently advanced to connect the sound, in many cases, with the seat and nature of the cause.” All we have to hope for, then, is, that as the art progresses important discoveries may be made, and especially as to the fact, that horses do become roarers without any apparent cause, as in the several instances now stated by me. That, as Mr. P. says, “the causes are many and various,” cannot be denied; and that, consequently, the remedies cannot but be something like proportionate in number, and oftentimes extremely dissimilar. How thankful would owners of valuable horses be if both cause and cure could be at once announced!

Speaking of the “incurables” reminds me that, a short time back, a prospectus was sent to me of an establishment on Mitcham Common for the cure of glandered horses. I wish it success; but the question is—Do they not manage these matters better in France? Almost four months back glanders broke out in some public stables in Calais. The police went to work, and had every diseased horse shot. Nine were shot one evening on a common half a mile from my house.

To return to my observations on the studs of the present year. Amongst all the crack grooms at Melton and other places, I could hear nothing of the use of the seton, except in a few hock cases, in most of which they were successful. The mercurial charge remains in high favour; but the main dependence is on the iron. Blisters are quite out of favour, and deservedly so, in my opinion; for, as I have more than once said of them, they often rouse the sleeping lion, and it is found difficult to lay him. For curbs they care but little. They have an embrocation that checks them for the present, so as to continue the horse in his work, and after the season the iron is generally had recourse to.

In the summer season the very best effects are found by con-

tinued application of cold water to the legs. Mr. Beal (the well-known "Tom Beal"), head groom to Lord Chesterfield, informed me, that the legs and feet of all his Lordship's hunters are washed twice a-day, for a quarter of an hour at a time, in cold water in the summer months, and with the very best effect. For horses in work, whose legs are much worn, the daily application of cold water is found to be highly beneficial. In fact, a huntsman to a celebrated pack of hounds has been heard to say, his old horses could not have gone on in their work but for this boon, which is within every one's reach. But I will give a few instances:—That rare bit of horse-flesh, *Kitcat*, after running the gauntlet at Melton, and carrying several of the hardest riders of her day—say twelve years back—came into the possession of Lord Erroll, with legs that might have frightened any man but his Lordship, being very large and round, and with skin as hard as the bark of an oak-tree. They were reduced to a very reasonable size by being placed daily in tubs of cold water, with ice floating on the surface of it when it could be procured. This mare stood several seasons of hard work afterwards, and might have still gone on in work had she not dropped into a very hard day when too high in flesh, which cost her her life. A bay horse, called *Nimrod*, which was at Melton the same time with *Kitcat*, and exactly in a similar state, was recovered by the same means, and is now going in the Queen's hunting stables. Another horse, called "The Colonel," was also recovered by these means, though he is now dead; and the same may be said of "The Wonder," in the same royal stud, and now going with the hounds. I really believe that, in the case of much-worn and callous legs, the refrigerating system to be most beneficial, although I should not be inclined to practise it with fresh horses in the hunting season. I am, however, all for washing legs and feet with cold water twice a-day in summer. The use of tanners' bark is also preferred to straw for hunters summered in sheds. It is less heating to the feet, and presents a perfectly even surface to the tread. It is, of course, necessary that the droppings from the horses should be daily picked up, and not suffered to be incorporated with the tan.

During my late sojourn in Leicestershire, Nottinghamshire, &c. I came across more than one of your profession, and, of course, did not fail having a little professional talk. Amongst them was Mr. Rowland, jun., who is in high practice amongst the Melton and other studs, as his father was before him. I had, indeed, the pleasure of riding close to Mr. Rowland in a very pretty two-and-twenty minutes with Lord Hastings' hounds; and it delights me to see veterinary surgeons so employed, as it cannot fail giving them many a good wrinkle in their practice, in the stables of sportsmen especially. " 'Tis the pace that kills," said the late Lord Forester,



and it is "the pace" that lays the foundation of much chronic disease. Amongst other subjects, I discussed that of the seton with Mr. Rowland, and found that he had no faith in it in sinew cases, although he admitted its value as a counter-irritant, and in hock lameness. Touching curbs, he said that, notwithstanding the extreme wetness, and, consequently, the extreme depth of the country, as it is called, during the last season, he had had fewer cases of curbs than in any previous season. I ventured the suggestion that the circumstance might arise from the ground being loose, for it has more than once occurred to me to be aware of *the occasion of a curb being produced* by a horse getting into a half-dried, clayey slough, when, on his hinder legs being drawn out of it, a sort of sucking noise was heard, or rather a pop like a cork out of a bottle. Jumping from a half-dried clayey bank will also act as the cause of curb, as well as sudden turning in half-dried deep ground.

During my visit to Mr. Hodgson, at Quorn, Mr. Rowland paid me the compliment of bringing a horse of his for my inspection previous to his sending him to Lincoln fair. He was all over a London horse, and at a good price; but a little too much of the peacock order for forty minutes', best pace, over the Belvoir vale. The length of an inch taken from his legs and added to his body, with a little more bone, would qualify him for any thing; but, unfortunately, we have not the plastic power to mould animal matter as the potter has over the clay.

From the horse to the dog is no great jump. My dear Sir, is it beyond the reach of your profession to find a remedy for the disease called Distemper in Dogs? Do any of your members visit kennels in the spring of the year, when the young hounds come in from their walks, and, almost as sure as they do come in, are attacked with the complaint in question? It has raged violently in some kennels this year, in Mr. Folgambe's especially; and it went to one's heart to see the suffering occasioned by it in the Quorn kennels. The incessant coughing and husking, the discharge from the eyes and nose, the convulsive twitchings of the body, together with the general debility of the frame, render it one of the severest afflictions to which the animal creation is subject: and it is only necessary to read Mr. Blaine's description of it to be satisfied on this point\*, inasmuch as he has even added other painful symptoms, such as tumours, colic, &c. to my list of miseries. Both masters of hounds and their huntsmen appear to be in the dark as to the nature and treatment of this disease; and it is, therefore, very unlikely that I should be able to throw any light upon it; still I will state two facts that have come within my observation:—

\* Encyclopædia of Rural Sports, part iv, chap. 4.



Sebright, huntsman to Lord Fitzwilliam, finds that repeated gentle doses of Epsom salts, to young hounds first coming into kennel, much abates the virulence of the distemper. During my late visit to Mr. Hodgson, master of the Quorn hounds, a valuable young bitch was in a dreadful state, and, having refused all kinds of kennel food, was given up as lost. A little bacon was offered to her, which she ate, and on her taking it again the next day there were evident signs of amendment, and her recovery was the result. In all probability, the crisis with this bitch was past, and she might have recovered had she not eaten the bacon; nevertheless, the mention of the fact can do no harm.

It is the opinion of one master of hounds, that the distemper might not appear amongst young hounds so regularly and fatally as it does, if for the first half year they were fed chiefly on milk, or other lighter diet than the usual kennel food; and that thus the lives of many valuable puppies might be saved. But, added he, what would be the result? The disease might, and most probably would, break out in their second year, when all the pains taken in breaking in those which might be carried off by it would be thrown away, and then would the loss of one hound be more than equal to that of two not entered to their game.

As may naturally be imagined, in the society I am thrown into in my tours, subjects connected with horses, as well as the veterinary profession itself, are often brought on the tapis. That of shoeing was lately discussed in my presence, and the recollection of it leads me to the mention of one remarkable fact. There is residing at ———, within two miles of Leicester, a gentleman of the name of Smith, of whom, in reference to my present subject, it is enough to say, that no man in Leicestershire, or in any other country, rides better to hounds than he does; and he scarcely misses being in the field one day throughout the season. The smith who shoes his horses *comes seventeen miles for the purpose*, being, of course, paid accordingly for his work! “But why go so far for a shoeing smith?” was the question put to him by me. “For the best of all reasons,” he replied; “he never lames my horses, and, desperately deep as has been the country all this season, I have not lost a single shoe in the course of it.” Now, I think I may challenge the sporting world to produce a similar instance to this—I mean in a stud like Mr. Smith’s, who are ridden as near hounds as any man ought to ride, and ridden as often as they are fit to go; and I should much like to know to what is to be attributed this extraordinary security to the shoes, for it is to an extent that I never before heard. I questioned several hard-riding Meltonians as to their average loss of shoes in the season, and it seldom was below the average of five or six, and I should say that was gene-

rally my own average loss, when I hunted regularly with my own stud.

The usual precautions are taken at Melton; that is to say, the smiths attend every hunting morning the studs shod by them, for which a shilling is the regular charge; but, to my surprise, the shoeing at Melton is not considered first-rate. It is true that, what with the number of bridle roads and the larking propensities of their owners, hunters travel less upon hard roads in Leicestershire than those of most other counties do; still, where the best and most valuable hunters in the world are to be found, we should look for the most skilful shoeing-smiths.

In allusion to your profession, as a subject of conversation amongst hunting men, may I be allowed to recapitulate some observations by a large owner of horses, and a good old practical sportsman, on the theory and practice of the late Professor Coleman? It was much to this effect, first touching shoeing:—

The first great error of Mr. Coleman was, his imagining, or appearing to imagine, that all young horses had perfect feet, and he acted on that principle; whereas there are not two alike in a dozen, inasmuch as they differ in shape, consistency, &c. And this accounts for so many differently shapen shoes in what was called the “old system of shoeing,” the shoes having been shapen to the feet as the smiths found them. And this is also one reason why we now differ so much as to what is the best shoe for general use; and the question arises, whether we can, by good management of the feet, bring them all to take one particularly shapen shoe? Mr. Coleman and others spoke much of the old system, the old shoe, and the common shoe; but, in fact, there was no old system, and no common shoe. The smith made a shoe according to the foot; and by the different opinions now given, we are doing much the same thing, although, by understanding the treatment of the foot better, we get nearer to the use of one particularly shapen shoe. We shall, however, never completely succeed in this object, from the variety of natural shape of the foot, nature of the work, and so forth. Mr. Turner’s unilateral shoe, for example, is a shoe of relief, but it cannot be brought into general use.

Mr. Coleman made no distinction between naturally narrow feet and those become so by circumstances; and by endeavouring to expand the former by frog pressure he lamed many horses. Look at the Arab horse, the mule, and the ass; a high and narrow heel is one of their principal characteristics, but how rarely is either lame in the feet! Mr. Coleman conceived that the frog was *naturally* on the ground, and insisted upon the necessity of expansion by pressure on this organ. By this reasoning he must have supposed the frog to be a solid and fixed body, whereas it exfoliates in layers. No-

thing could be much more ridiculous than the different patents he took out for this purpose, all of which failed. In fact, shoeing was considered a simple process until Mr. Coleman appeared with his false notions, and put ignorant people on a wrong scent; and, after all, his system was but a compilation from old authors—La Fosse and others. But what is the result? Why, after blundering on false principles and ruinous practice for upwards of thirty years, we are come back to where Mr. Moorcroft left us, which is the plain, concave-seated shoe, fullered and steeled at the toe, which is the nearest of any to perfection, and which we can generally avail ourselves of, with proper treatment in the stable, so as to meet the smith half way. The different opinions at the present time, indeed, on the subject of shoeing in a great measure have their origin in the different forms of the natural foot, and in the way it ought to be treated by the smith. The French smith nearly leaves the foot as he finds it; at all events he leaves abundance of sole. How far he is justified in so doing a difference of opinion may exist; but one thing is certain,—there are fewer lame horses in France than there are in England—to be accounted for in part, perhaps, by the gentler method of using them; and the French appear to be of opinion that there are as many sins of commission as of omission in the treatment of horses' feet.

Then my informant spoke of a book of instructions which Mr. Coleman sent forth to the cavalry regiments, to those in what are called out-quarters, accompanied by a medicine chest. But what a medicine chest was it? No aloes, but *alterative and febrifuge powders* were the grand panacea! To this I have nothing to say, neither is it material to our present object,—the diffusion of veterinary knowledge; but from what I have read and heard, I am free to observe that it was high time for Mr. Coleman to change—as he is acknowledged to have done—both his doctrine and his practice, although I would not go to the extreme length of Mr. Clark, who thinks “the theories he enforced with most weight were uniformly true when exactly reversed.” He opposed the union of the interests of the agriculturist and the veterinarian by opposing the study of comparative anatomy, and here he committed a great error. Surely he should have done all in his power to promote rather than to check the extension of veterinary instruction.

This allusion to the connexion between the agriculturist and the veterinarian reminds me of the very interesting debate that lately took place amongst the members of your profession on the external conformation of cattle. The part reverting to the skin, and to what is called the “touch,” must have been highly interesting; and nothing can be more true than the editorial remark,

that, "let the form of the animal be as perfect as possible, except there is a peculiar feeling of the skin, he will never answer for grazing or stall-feeding." It might also be said, he will not make good beef; for, hard to the touch, and hard beef, are synonymous terms. I cannot, however, persuade my French butcher of this truth. He buys too much by the eye; and although most of his oxen and heifers may be called fine cattle to look at, two-thirds of them are hard beef.

A letter in a Shrewsbury journal from the pen of my old acquaintance, Mr. R. Hickman, V.S., lately attracted my notice; and may I be allowed to make an observation upon the subject of it?—Mr. Hickman is of opinion that the examination of veterinary pupils should be continued to be confided to the present examiners, and not to professors of the veterinary art. On this important subject, perhaps, much may be said on both sides; still, were I to have a valuable horse diseased, to whom should I look for the remedy?—to the most eminent surgeon in London, or to a skilful veterinary surgeon? To the latter, undoubtedly. Nevertheless it is quite possible that the presence of such men as Sir Astley Cooper might tend to the advance of knowledge and science in a profession which, compared with his own, may be said to be in somewhat of an infantine state.

One word more touching Mr. Coleman. In that excellent work called "The Horse," published by the Society for Promoting Useful Knowledge, he is represented as stating (p. 27) that not one horse in a thousand receives glanders from contagion; and in allusion to the great loss sustained in those of the artillery by this disease on their passage to Quiberon Bay, in the expedition under Lord Moira, he attributes it to their having been shut down in the holds of the transports, and, consequently, breathing foul air. I lately came across the gentleman who had the command of those horses, who declares that the infection was the consequence of their having been placed in stables at Southampton, previous to embarkation, in which a large number of Hanoverian horses, glandered, had been kept; that the hatchways were only shut down for a few hours; and that the horses arrived at Quiberon Bay in good health. "Mr. Coleman," said he, "was in error when he assigned foul air and bad food as the cause of glanders. Rain on the loins, producing cold upon cold, is the most fruitful source, as my experience of horses in camp and on picket has very satisfactorily proved."

Now, my dear Sir, one word touching yourself. I rejoice to hear you are recovered from your long and painful illness: was it not occasioned by too much bodily and mental exertion? Your friends say it was. Let me, then, recommend the use of what we

call on the road the "*check-rein*," which is applied to too free a worker. There is a temperance to be observed in every thing relating to the soul and body of man:—in eating, in drinking, in knowledge, in religion—in all things in short; and in nothing more than in the application of the mental faculties.

NIMROD.

June 7, 1840.

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## S A D D L E S.

*By* AMICUS.

[We are acquainted with the name and address of the author of this pleasing yet erudite essay. Why are they withheld from the reader? At all events, we shall be happy to hear from him again.—EDIT.]

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IN the early ages of the world, horses were ridden on the bare back; but, after a lapse of time, necessity, the mother of invention, suggested the introduction of some kind of covering which should be placed upon the back of the animal. Pliny informs us, that one Pelethronius (of whom at this distant period nothing certain is known) first introduced this practice—Lib. viii, c. 56. The coverings employed consisted of a piece of cloth, or a mattress, a piece of leather, or a sheep's hide. A beautiful engraving of a more costly covering, which afterwards came into use, may be seen in that treasure of classical archæology, by Montfaucon, entitled "*L'Antiquité expliquée et représentée en Figures.*"

These horse coverings were, however, by no means universally approved of, it being regarded as more manly to ride without them. Varro, who was born B.C. 118, boasted of his having ridden his horse, when he was young, without a covering; and Xenophon, who flourished about 430 B.C., reproached the Persians, because they placed more clothes on the backs of their horses than on their beds, and gave themselves more trouble to sit easily than to ride skilfully. Hippocrates, who lived about 500 years B.C., observes, that the Scythians, who were much on horseback, were subject to sundry maladies in the hips and legs, from the want of some support for their feet. In the time of Alexander Severus, emperor of Rome, A.D. 220, the horses of the whole Roman cavalry had beautiful coverings. These were termed *ephippium*.

The several parts of the saddles at present in use are too well known to require any minute description in this place. With re-



gard to their invention, it is extremely probable that they were introduced about the middle of the fourteenth century: of this, however, we have no certain proof; and we have strong reason to believe that the rude coverings of the ancients were gradually transformed into saddles. Pancirolus, an eminent Italian civilian, who wrote a curious treatise on "Ancient Inventions," conjectures that the first mention of a saddle is to be found in a work entitled "Chronicle, or Annals from the Creation," by Zonaras, a Greek historian.

The literary antiquarian, Montfaucon, above referred to, has given a figure of the pillar of Theodosius the Great; and if the figure be correct, it must be allowed that the fore part of the covering on which the rider is seated resembles the *pommel*, and the hind part the *saddle-tree*, at present in use.

Perhaps the order of the Emperor Theodosius may be regarded as the most clear and decisive proof we have of the antiquity of saddles. About the year 385, Theodosius issued a decree, forbidding those who rode post-horses to use saddles that weighed more than *sixty pounds*. If the saddles were heavier, they were to be cut in pieces.

This passage appears to allude to the proper saddle, and its extreme weight must be attributed to the infancy of the invention, as well as to the rude state of its manufacture at that period.

Vegetius distinguished saddle-horses from others; and the saddle-tree seems to be mentioned by Sidonius Apollinaris. In the fifth century saddles were made so extravagantly magnificent, that a prohibition was issued by Leo I, in which it was ordered that no one should ornament them with pearls or precious stones. In the following century the Emperor Mauritius required that the saddles of the cavalry should have large coverings of fur.

It may be regarded as probable, that the invention of saddles belongs to the Persians. According to the testimony of Xenophon, they first began to render the seat of the rider more convenient and easy, by placing more coverings on the backs of their horses than was usual in other countries: besides, the horses of Persia were first made choice of for saddle-horses, on account, perhaps, of their shape, or their being easily trained to carry a saddle.

An inquiry into the various improvements and alterations which have in later ages been made in saddles is deemed unnecessary here, the reader, in all probability, being fully acquainted with them.

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## ON THE POWER OF NATURE IN PRODUCING RE-UNION OF FRACTURED BONES.

*By Mr. J. HORSBURGH, V.S. Dalkeith, N.B.*

THE lower we descend in the scale of existence, we find diseases fewer in number and more simple in form. In the inferior animals parts re-instate themselves which, in the higher, require the best treatment to heal, and even with that our purpose is frequently defeated.

Nature, unassisted, will perform a cure in the lower animals, which, in man, often defies the best surgical skill. Take, for example, the sheep and the dog with fracture of the extremities. Left to themselves, re-union will take place as well as—and sometimes better than—if the parts had been braced with the finest bandage applied with the greatest skill which the most experienced surgeon could employ.

The shepherds never think of bandaging the leg of a sheep; and if their favourite dog should happen to receive a fracture, he must be his own surgeon, and he seldom deceives the expectations of his master. Even in the cow, re-union takes place without bandage. The farmers in the south of Scotland just turn them out in a soft meadow, or in a straw-yard, alone. On this I will furnish you hereafter with some interesting cases, my present intention being to apply this *non-intrusion* principle to fracture of some of the bones of the horse.

First, as to fracture of the inferior maxilla, which often happens from kicks by other horses:—

About three years ago I was called to examine a horse belonging to Mr. Dickson, of Shevingdean. He had slipped his collar in the night, and was found in the morning with a considerable swelling on one side of the head. He appeared to be much distressed, for he had received a blow opposite to the posterior maxillary canal, which had produced a transverse compound fracture.

I ordered him to be tied to the rack; enlarged the wound a little; directed hot fomentation to the part; and desired that he should be fed on gruel of oat and pea-meal, without any hay or straw, and *no bandage to be applied*.

He was kept in this way for five weeks, at the end of which time an unhealthy discharge shewed that re-union was not taking place. I had him cast. I cut freely down upon the fracture, and extracted a piece of bone of the form of a wedge, inserted between the two divided ends. Re-union speedily took place; and in about three weeks more the horse was well, and at work.

On the 20th May, 1839, I was called to attend a horse belonging to the Marquis of Lothian, of Newbattle Abbey. He had met with a kick from another, while the groom was opening a gate when out at exercise. I found that he had received a very severe compound fracture of the inferior maxillary bone, extending from the first molar tooth obliquely upwards and inwards. I could introduce the point of my finger between the divided plates of the bone.

I removed five pieces of detached bone, two of them three quarters of an inch in length. He was then tied firmly to the rack, and no bandage applied. I ordered sago and a little bran, but no hay.

Fever took place on the fourth day, which was combatted in the usual way; after which the case went on well. Several small pieces of bone came out: during the cure, and until the wound was healed, no other treatment was resorted to but cleansing the wound daily with a syringe and warm water. In eight weeks complete union had taken place, during which time he had four pounds of sago a-day, and about a peck of bran; and, what may appear strange, he was rather improved in condition, although the groom had no faith in such feeding.

There was considerable enlargement of the part, which was treated, after the wound was healed, with the ointment of the hydriodate of potash with mercury; and now it cannot be known, unless by minute examination, that fracture has ever taken place.

In my next I will send you some cases of fracture of the extremities, where the use of the bandage was entirely dispensed with.

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## ON BLAIN IN COWS.

*By Mr. J. TOMBS, of Pershore.*

Dear Sir,—THE blain in cows made its appearance in this neighbourhood in the beginning of April, and terminated the latter part of May. I have met with forty cases, and am happy to say all did well. Six of the diseased cows were feeders—the others, milkers. It was brought to this neighbourhood by two barren cows that were purchased at Tewkesbury Fair, in March, by the owner of the majority of the affected beasts. They were taken to a fold-yard some distance from home. In a few days afterwards, they were observed to slaver at the mouth, and get very thin. They were then taken home, where they had, unfortunately, indiscriminate communication with the owner's milking cows. The fat ones were tied up in stalls adjoining the yard. The owner examined

their mouths as soon as they were brought home, and discovered sores on the tongue, attributing them to the barley-chaff they had been eating. In a few days the milking cows presented the like affection; the owner became alarmed, and sent for me. I immediately pronounced the disease to be the "prevailing epidemic."

The other cows belonged to a neighbour in the same village. The disease shewed itself in them when it was ceasing in the former.

It is supposed by the farmers that the disease in the last-mentioned cows was caused by the owner himself, as he was frequently in attendance on the cows of his neighbour, and especially as they were stationed half-a-mile apart, and none of the rest of the cows in the village had it. However, as to this I look upon it as a mere matter of conjecture, as, undoubtedly, it is produced by atmospheric vicissitudes, the same as other epidemics.

Bleeding was resorted to as a preventive, but it proved a failure. The disease was ushered in by a perpetual champing of the mouth (similar to an excited pig), with a profuse discharge of saliva, extensive vesicles on the tongue, palate, and lips, more particularly on the superior part of the tongue.

When the mouth was opened, there was an abundant flow of yellow fluid, which had an extremely offensive smell. An eructation usually took place at the same time, the stench of which was absolutely unbearable. When the blisters were lanced, a similar yellow fluid escaped as from the mouth. At the onset of the disease there was inflammation of the Schneiderian membrane, and a muco-purulent matter secreted by the same. We cannot be too particular in describing the symptoms of diseases.

As the malady advanced, vesicles formed on the teats and integuments of the coronets; the latter causing extreme lameness. The appetite was entirely gone in some, with others it was not; but they could not masticate their food, on account of the great soreness of the mouth. The pulse was quick, and the respiration accelerated in some; but in others not perceptibly affected. Where the lameness was great, the bodily affection was less. Some had sloughing of nearly the whole investing membrane of the tongue: where the cow lay down was a vast quantity of froth and saliva on the litter, and they were continually champing and drivelling from the mouth the first few days. Afterwards excessive debility sometimes supervened; and there was a great and serious diminution of milk for a length of time after the disease disappeared. They writhed in great agony when they were milked or the calves were sucking them. Only one sucking calf had the disease, although all the cows that gave suck had vesicles and sores on the teats. The pigs in the yard were generally lame, and labouring under the

same complaint; they soon recovered by drinking the sulphate of soda in milk. At the commencement of the disease in the cows they were bled, and the bleeding repeated in those that had a quick pulse and disturbed respiration. Laxatives and enemas were freely exhibited until the bowels were opened. Febrifuges were then given, and, where debility ensued, vegetable tonics. Gruel and boiled linseed meal were given five or six times a-day, until they were convalescent.

As soon as I saw every fresh case, I examined the mouth, and if the blisters had not burst, I opened them with Professor Sewell's periosteotomy knife—it being more convenient to open the blisters situated at the upper part of the tongue with it than a lancet. Where the tongue was much swollen and inflamed I made a deep incision in it, which made it bleed copiously, thereby relieving the principal local part affected. The mouth, teats, and coronets were washed frequently with a solution of chloride of lime. For the ulcers on the coronets that did not improve by the application of the chloride of lime, a mixture composed of tar and cupri sulphatis was had recourse to, which soon effected a cure. The fat cows, after their recovery, were slaughtered, but presented no internal diseased appearance. The milch cows are all well, and in blooming condition, giving as much milk as though nothing had happened to them.

In conclusion, allow me to ask one important question. Is the butter made from the milk of cows when labouring under this epidemic disease fit for human beings to eat? Have the kindness to bear in mind, that I stated in a former part of this paper that only one calf had this disease while sucking its diseased mother, although several cows that were sick gave suck to their offspring, and the calves escaped all disease.

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### MISCELLANEOUS PAPERS ON THE EPIDEMIC AMONG CATTLE.

[We extract the subjoined sketch of the present epidemic among cattle from that most valuable periodical "The Farmers' Magazine." It is the production of a practical man, and it touches on almost every point of interest connected with the disease. On the question of bleeding, and to such an extent as he states, we should most decidedly differ from him.—Y.]

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*To the Editor of "The Farmers' Magazine."*

"Sir,—HAVING read and heard various statements as regards the present prevalent disease among cattle, and having had, within

the last fortnight, upwards of twenty beasts of my own seized with the malady, I am induced to state my opinion and experience.

"I find the disease to be contagious only among cattle of the same species. Its first symptom is a drivelling from the mouth. On examination, the tongue and gums appear ulcerated, and the cuticle eventually peels off. The lips are somewhat swollen; the eyes sunk; the extremities much heated; the legs and joints inclined to swell; and, in a more advanced stage of the disease, the hoofs begin to crack, and lameness ensues.

"For some days the disease wears an alarming aspect, but, with proper care and treatment, it is rarely fatal. I have not lost one of my beasts.

"I commence my treatment by abstracting six quarts of blood. I then give one pound of Epsom salts and three ounces of flower of sulphur in two quarts of thin gruel. If this does not sufficiently open the bowels, I repeat the dose in twenty-four hours. I also give gruel plentifully, as it seems to be of the greatest consequence in this disease to keep the bowels well open, and there is a great tendency to costiveness. I also wash the mouth with vinegar and alum. When the feet are affected, they should be kept clean, and butyr of antimony and vitriol applied to the cracks or sores.

"There are reports in circulation, that the milk, butter, and cheese from these cows are unwholesome food. Judging from my own experience, I should say, that these reports are groundless; for, having set apart the milk of these cows, and fed several calves and pigs wholly with it, I found them in as healthy and thrifty a state as any I ever had. Myself and family also have invariably eaten of the butter and milk, and not one of us has experienced the slightest distaste, ill-relish, or ill-effect.

"JOHN LONG."

"Whaddon."

## ON THE PREVAILING EPIDEMIC IN CATTLE.

*By Mr. C. SNEWING, V.S. Rugby.*

[We also extract the following valuable paper from "The Farmers' Magazine." Mr. Snewing was an old correspondent of our's. We will not deprive our readers of the benefit of his remarks, although he has chosen another medium of communicating them to the public.—Y.]

"Sir,—PERCEIVING that your valuable journal is one of the channels through which a knowledge of the prevailing epidemic among cattle, as manifested in different localities, is diffused, I trust



that the following observations—based as they are upon experience—will be received by you as coming from a humble but zealous practitioner in this long-neglected branch of the veterinary art. But to the praise and honour of the agriculturists be it said, that they, as a body, are kindly co-operating with us to fill up that desideratum which has been suffered to exist so long at the Veterinary College; for, without an inculcation of first “principles,” grounded upon truth and science, I am confident no one can practise the healing art without oftentimes exhibiting much ignorance, and degrading himself to a level with mere empiricism.

“In no malady are the abilities and acquirements of an individual more severely tested than in the treatment of an epidemic disease; at the cause of which the ablest man can but conjecture, attributing it to be dependent upon atmospheric vicissitude, rendering noxious to life the air we breathe, by being mingled with some deleterious substance, whose subtle essence, like the infectious miasmata of some other diseases, eludes the most careful researches of the chemist, its presence being only known by the effect it produces.

“We are, at times, rendered sensible of the changes which inorganic matter is undergoing by eruptions from the bowels of the earth, in the form of volcanoes; by its surface being shaken with earthquakes; by explosions in coal mines; and, above and around us, where matter only exists in a gaseous form, we are visited with like occurrences, as is witnessed in thunder and lightning, all, probably, arising from a similar cause—the re-combination of some of the elementary substances of nature. How feasible, then, is it to suppose that, during these changes, some gaseous miasm is liberated from “the fertile womb of Nature,” rises and intermingles with the ærial medium around us, and, “wafted by the passing breeze,” spreads, to lay its devastating hand upon that part of animated nature in which the powers of resisting disease have been most enfeebled by those causes which are constantly operating to destroy life.

“Passing on to an inquiry into the nature of this epidemic, differing as it does in the pristine form of its attack, and its intensity in different localities (and, indeed, in different animals in the same herd); commenced, as has been observed by others, sometimes with blisters forming on the rugose surface of the upper part of the mouth, at the part opposed to the cutting surface of the front or incisor teeth, spreading from the tip along the upper surface of the tongue even into the fauces, attended with a frothing and champing motion of the mouth: in others, the feet appear to be first affected, although quickly involving the mouth and other parts; and in a few cases, I have noticed an intolerable itching sensation



about the head and ears; and this, when occurring, being generally attendant upon the first stage of the disease.

“ Various as are the forms in which it presents itself, I believe it to be at the onset, at all times, comprised under the head of inflammatory fever, afterwards and quickly assuming a typhoid form; partaking, more or less, of a septic or putrid nature, with a degree of depression of vital power in accordance with the virulence of the attack.

“ In its treatment, it should be borne in mind that it is of a *specific* nature, dependent upon a peculiar *diathesis*, or state of body, arising from epidemic influence, being subjected to the action of a vitiated atmosphere, which, giving rise to febrile commotion, a state of excitement is induced, which soon conquers the opposing force of nature, depresses organic nervous power, and quickly renders life extinct. Therefore, although the disease may be based on inflammation, attended with a quick, full, and bounding pulse, yet depletion must not be carried to excess. There must be no bleedings to “approaching syncope;” none to produce a “falter” of the heart’s action, or fatal collapse may ensue, and rapidly sink the powers of nature. But moderate bleeding during the state of excitement, I have often found to abate the disease, also to lessen the degree of subsequent debility, and duration of it. All concur, I believe, in the propriety of unloading the bowels, by means of some *cathartics*, as speedily as possible, which are often found loaded with a quantity of black, highly offensive fæces, frequently streaked with blood.

“ The after-treatment *must be left* to the discretion and judgment of the medical attendant; for no rule can be laid down from which no deviation in treatment is called for. It is mere quackery to suppose or assert so: but it will be remembered by the practitioner, while combatting the febrile and vascular excitement, that he has to guard against too great subsequent prostration, and the disease generating into *typhus* of a low character, or its involving seriously an organ essential to life; of which complication I have found the lungs, bowels, or udder, oftenest implicated with it. When such has been the case, attended with low nervous fever, I have often found that the exhibition of large doses of camphor, combined with the compound powder of ipecacuanha, and the *white* powder of antimony, of the greatest value. Should great debility attend it, or follow as a sequel, I have given with decided benefit the sweet spirits of nitre, in combination with the solution of acetate of ammonia; and, as soon as the most urgent symptoms of fever begin to decline, I resort to some of the mildest vegetable tonics, and order a larger quantity of common salt to be given with the linseed gruel, which forms the beverage from the commencement, unless a too

relaxed state of the bowels ensues, when wheat flour gruel should be substituted for it. As regards a local remedy for the mouth, and other ulcerated parts, I know of no better than the chlorinated solutions, which quickly destroy the fœtor emitted from them, and induce in them an healthy action.

“As regards a prophylactic, I may mention that aperients have been given, and the after-attack, for there has been some, has been considered milder. Bleeding has been resorted to, and the period of invasion has appeared to have been protracted by it, though not mitigated in its form; and, lastly, setons in the dewlaps have been inserted, but as yet with undecided benefit.

I remain, faithfully your's,

C. SNEWING, V.S.

Rugby, May 10.

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[The following conversation took place at the Second Anniversary Meeting of the Royal Agricultural Society of England. The account of it is also extracted from “The Farmers’ Magazine,” the Editor of this Journal being then confined by illness.]

“*Dr. Whitlaw* expressed his opinion on the cause of the late epidemic amongst cattle, and referred to the writings of Linnæus for corroboration of his views. He declared his full persuasion of the deleterious nature of the butter-cups, and other species of *ranunculus* in pastures, to the cattle feeding on them, attributing to the poisonous properties of these plants not only the recent epidemic, but all former attacks of the kind; rendering the animals poor and unwholesome as food. He would, therefore, recommend to the society and the public to try the experiment of ploughing up the old pastures, saturated as they were already with the poisonous exudation of deleterious weeds. He would also refer to the evil effects of bringing animals to such a degree of obesity that their fat might be literally termed neither more nor less than the ‘essential oil of dung.’

“*The Chairman—the Duke of Richmond*—said, that butter-cups were no novelties in our pastures, and, therefore, that if they were indeed the cause of the distemper in question, why, he would ask, had we not had it before? Besides, it would be presumptuous in any man to assert the cause of a disease before gleaning from every quarter the experience on which he was to found his reasonings. This disease had made its appearance, and the society having sent a request to each of its members for facts on which to form their judgment, had given to them the best practical remedies they could obtain for the primary symptoms; and he firmly trusted that the motto of this society, “Practice with science,”

would be their guide in every future case, and that they would reason and recommend to the extent of their experience and the facts brought before them.

“ *Sir Thomas Gooch* stated, that he frequently observed that the cow would not touch butter-cups, but that sheep devoured them readily.

“ *Mr. T. Raymond Barker* informed the meeting of a singular experiment which had been made by a gentleman in Gloucestershire, in supplying his own table with the milk, cream, and butter of the infected cows, and that neither that gentleman nor his family had suffered in the slightest degree from partaking of them as the articles of food.

“ *Sir Samuel Crompton* stated the great personal pains that, to his own knowledge, had been taken by the noble duke and the committee, in examining into the facts connected with this subject.

“ *Mr. John Ellman* was convinced of the infectious nature of the complaint, having placed a diseased cow in the same shed with sheep, the latter immediately taking the disorder.

“ *Mr. Webb Hall* was fully assured that the disease was distinctly contagious.

“ *The Rev. Mr. Smythies* remarked that the butter-cup generally grew on alluvial land; and as this usually occurred on the banks of rivers, to plough up such pasture would be to expose it to the chance of having its soil washed down, from the loosened state to which it would be brought under such circumstances.

“ *Mr. Childers* called Dr. Whitlaw's attention to the fact, that one of this year's prizes had been proposed for the purpose of obtaining information on the subject of weeds in meadows.

“ *Mr. Carleton Smythies* remarked, that the best pastures always contained the greatest number of butter-cups.

“ *The Rev. W. L. Rham* would take that opportunity of informing the meeting of a curious fact connected with this disease, which had been recently communicated to him by a correspondent in Germany. It seemed that the complaint had existed in that country for some time, and the farmers regarded it not only as of the most infectious and contagious nature, but as of a character too hopeless to admit of cure; and they had, therefore, resorted to the qualifying remedy of *inoculation*, or, as he might truly term it, *vaccination*; and applied the saliva of the diseased cows to the mouths of the rest of the herd, thereby communicating the disorder to them in a mild form, and preventing them from taking it with its natural and severe consequences—the whole of the flock in every case escaping.

“ *Earl Spencer* was happy to say that he had in his own experience had only three cases of the disease; but that he had found

the remedies proposed by Professor Sewell perfectly successful in restoring the animals in every case.

“ *The Rev. Mr. Smythies* considered that the society deserved the grateful thanks of the country for this mark of their attention in the circular which they issued, a proceeding which he considered as stamping in the highest degree the character of the society, and affording a striking instance of its future value and utility to every individual member throughout the country.

“ *The noble President* observed, that Dr. Whitlaw had sent in a paper on the post-mortem examinations which had come within his knowledge; and he trusted that other members would follow his example on this point, and enable the society to come to a knowledge of the nature and treatment of the disease.”

## VETERINARY QUERIES.

*By Mr. W. C. SPOONER, Southampton.*

I THINK Mr. Stewart's ideas on the subject of eliciting veterinary information by means of queries likely to prove very useful, if carried out and met by others with a right spirit; for, by this plan, information may be obtained on many points that would not be deemed sufficiently important for a veterinary essay, and it may also be the means of canvassing many interesting subjects amongst the profession, on which there might be much difference of opinion. With this favourable view of the plan, I venture a few replies to Mr. Stewart's questions, and I trust that the same Number in which they appear may contain others from various individuals.

*Are broken-winded mares barren?* I should say, no: I know one instance of a broken-winded mare proving in foal.

*Does Stringhalt ever make a horse less fit for work than he would be without it?* I should say it may, although it seldom does.

*What evils attend the loss of a jugular vein?* None whatever, eventually, except the incapability of being bled on that side again. I have known the carotid gland continue enlarged for some months, but at length the swelling has gone down. I have known many instances of horses being turned to grass afterwards, without any inconvenience or ill effect. The more simple these cases of inflamed veins are treated, the better. A little caustic powder applied to the wound—cold lotions for a day or two—succeeded by moderate and repeated vesication—keeping the head tied up as much as possible—a soft diet—gentle exercise, but no work—these are the best prophylactics, and will accomplish our purpose, if

assisted by lots of patience on the part of the owner. No injections should be employed, and the less the wound is interfered with the better, either with bistoury or probe. In 99 cases in a 100 we need not fear ulcers, abscesses, or sinuses—Nature will set herself right.

*How long may a crib-biter live?* Generally speaking, till his legs are worn out, and he is destroyed in consequence; or till he becomes so poor as to be unpleasant to the eye, and for this offence receives his death-warrant. Instances of old horses, who are also old crib-biters, are numerous.

*Has grogginess of two months' standing ever been perfectly cured?* This term grogginess is not sufficiently definite—obscure foot lameness of two months' standing has certainly been cured; but if ulceration has commenced in the navicular joint, we may relieve—we may palliate—we may patch up; but a cure—a permanent cure—is seldom if ever effected.

*How soon may specific ophthalmia produce visible cataract?* Generally speaking, cataract is not perceptible till after repeated attacks; but I have known it supervene within a fortnight from the first attack.

Having given these off-hand replies, allow me in return to submit a few queries to others:—

Has any attempt ever been made to neurotomize the hind leg, above the hock, for spasms or hock lameness? Is there any chance of succeeding?

Are Epsom salts a good and proper purgative for sheep? An agricultural friend tells me, that, whenever he has given them, their exhibition has been invariably succeeded by death in a short time afterwards.

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## A CASE OF THE SUCCESSFUL USE OF THE DINIODIDE OF COPPER.

*By Mr. W. BADDELEY, V.S., Staffordshire Potteries.*

ON the 9th of November last, Mr. Kelshall, of this town, called on me to look at a brown mare, aged, and rather low in condition, with what he called a humour in the off hind leg. He had given her a few diuretic balls, with exercise, but she got no better. On examining the leg, I found a small wound on the point of the hock, but not deep. The limb was much swollen, hot, and painful. I gave a bottle of lotion to apply to the hock, and ordered her to be prepared for a dose of physic, with bran mash, &c.

10th.—This morning I took about three quarts of blood from the



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toe, and used fomentations to the limb—administering also a purging ball.

11<sup>th</sup>.—The physic operating well, but the leg much more swollen, hot, and very tender in the inside of the thigh—fomentations continued.

12<sup>th</sup>.—On examining the thigh, I found a few farcy buds, and two on the point of the hock. The proprietor concluded that the wound had been caused by a fork in the stable; but I satisfied him it was a clear case of farcy, and that the wounds had followed as a natural consequence.

Reflecting on Mr. Morton's invaluable paper on diniodide of copper, I resolved on putting it to the test. Accordingly I administered diniodide of copper ʒj, pulv. zingiber. ʒij, pulv. gentian ʒij, made into a ball every morning, and applied the budding iron freely to the ulcers, with walking exercise.

17<sup>th</sup>.—Continued the balls regularly up to this date, but with little improvement, and the budding-iron was occasionally re-applied.

19<sup>th</sup>.—Six more balls were now ordered to be given, one morning and night. A seton was inserted in the thigh, and dressed with ung. digest. every morning.

25<sup>th</sup>.—This morning I accidentally met the proprietor with the mare in a cart going to the market. The ulcers were quite healed, and the leg almost as fine as the other; the seton still in, and discharging healthy pus. The owner told me the swelling gradually went down, after taking the two first balls. She had taken all the medicine, and I gave her another dose of physic on the 26<sup>th</sup>. The seton was then removed, and up to this time she is in perfect health, and free from any swelling—the diseased leg being now as fine as the other.

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## A CASE OF FRACTURE OF THE MAXILLARY BONES OF THE HORSE.

*By Mr. J. B. MINIKEN, V.S. Wexford.*

ON the 10<sup>th</sup> of April, one of my visiting days at New Ross, twenty-three miles from Wexford, a bay horse was brought to my establishment for advice. The groom informed me that the day previous he was turned out for an hour or two, in company with other horses; but that, on taking him in, he would not allow his head to be handled without very great resistance; and his corn being given out to him, he could not get it beyond his grinders.

I was obliged to cast him, as he became furious when we at-



tempted to open his mouth. I then discovered that the os maxillare inferior was fractured, and, superiorly, the three near incisors, the tush, and two of the left molars broken, and only retained in the mouth by the muscles that were attached to them. There was no mark or wound externally. I dissected the tush carefully out, and removed two small splinters from the maxillary. I dressed the wound with tincture of myrrh, and gave Barbadoes aloes 3ii, and ordered him slop bran mash: he remained in my stables until the 24th, when he was discharged. He could feed as well as formerly, and finish his rack of hay as quickly as any other horse. I could not account for the accident, as there was externally no mark of violence.

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### A CASE OF LITHOTOMY ON AN OX.

*By M. JOUANAUD, M.V. at Saint Céré.*

I WAS solicited, on July 23, 1836, to attend to an ox, sadly poor, and that seemed to be afflicted with colic. Wishing to ascertain the nature and cause of the disease, I introduced my arm into the rectum. The bladder was in a state of great distention, and the ox made the most violent efforts to discharge his urine. I explored the urethral canal, and I recognized the presence of a calculus at the situation of the ischial arch. I immediately cast him, as gently as I could, on a good bed of straw. I effected an oblique incision on the urethral canal, and a granulated calculus, of a conical form and a metallic colour, was extracted through the opening. A little bloody urine followed through the incision. The hobbles being removed, the beast got up, and began to void his urine in abundance.

He was put on a somewhat restricted diet, and mucilaginous drinks, in which a small quantity of nitre was dissolved, were administered.

24th.—The greater part of the urine escapes through the incision, but a few drops find their way through the point of the penis. The animal seems to be but little affected by the operation. The nitrated drinks were given during seven or eight days\*.

Four months passed without the ox experiencing any difficulty in voiding his urine; but then came a new attack of colic, with retention of urine, and he was sold to the butcher.

\* These nitrated drinks appear to me to be contra-indicated in a case like this. The author probably supposed that there might be some smaller calculi in the bladder, and increased the urinary secretion with the hope of their being thus expelled.—*French Editor.*

## THE POISONING OF NINE DUCKS BY MEANS OF HEMLOCK SEED.

*Communicated by the same.*

ON the 6th instant I visited some of the cattle belonging to M. Lavaur, of Saint Médard, which were not well. When I arrived at the house they told me that nine ducks were poisoned, and that one of them had vomited some small seeds, of the name and quality of which they were quite ignorant. I requested them to shew me the meadow in which the ducks had been wandering. I there found the hemlock plant in its fullest state of maturity, and that the capsules growing from some of the lowest branches had been emptied. I compared the seeds vomited by the duck with those of the plant, and they precisely resembled each other.

*Symptoms.*—Swelling of the craw, stupidity, and paralysis of the extremities.

*Treatment.*—I poured plenty of milk and oil down their throats, and that soon produced considerable purging in seven of them, all of which recovered. On the other two this medicament had no effect, and they died.

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## CASE OF INVERSION OF THE UTERUS IN A COW.

*By Mr. A. S. COPEMAN, Halesworth, Suffolk.*

[We insert the following case, not because there is any novelty about it, except the non-administration of the horrible drugs with which the poor animal used to be drenched under similar circumstances, but because it is a kind of continuation of the subject of several communications in our last number : it is also unaffectedly told, and a pledge of something more original and important by and by.—Y.]

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ON January 10th, 1840, at 3 A.M., I was sent for in haste to a cow. She had produced a fine calf without assistance, but was evidently in great pain, and unable to rise. The uterus was inverted to an extent that would have filled a bushel.

My first object was to cleanse it, with soft cloths and warm water, from all the dirt that had got about it in her struggles, and

to introduce a large linen cloth underneath it to preserve it from gathering more filth. The corners of this cloth were held by two men, who lifted the protruded body from the ground, while the owner and myself introduced a considerable quantity of straw under her haunches, until we had elevated them at least a foot above the level of the head.

The two men, assisted by the owner of the beast, now raised the cloth somewhat higher, while I, with some little difficulty, but gradually and effectually, succeeded in returning it to its natural cavity. I then found that a small portion of the placenta had been returned with the uterus: this I easily and perfectly extracted. I then passed three sutures of stout tape through the labia pudendi, and tied them somewhat loosely. We now endeavoured to get her up, but she fell again immediately. The throes still continuing, I gave her a drachm and a half of opium dissolved in warm water, and ordered that she should be warmly clothed, and have gruel and warm mash.

4 P.M.—The after-pains ceased soon after the administration of the drink, and have not returned. She now gets up with a little assistance. The pulse 70—the ears, legs, and skin hot, and the fæces hard, and covered by an immense quantity of mucus. R Sulph. soda  $\mathfrak{z}$ x, zingiber. 3j, and give in good gruel. Continue the mash, gruel, &c.

11th.—The medicine has operated well, and the bowels continue moderately open. The pulse is 58; the extremities warm; the appetite improved, and she is evidently doing well. Give her in some gruel two drachms each of gentian, ginger, and chamomile powder, and half an ounce of nitre.

12th.—Improving—remove sutures. Continue medicine.

16th.—In good health and spirits, and wanting no care of mine. She is of the Suffolk breed, eight years old.

It is a very fine, healthy, male calf, and was dropped on the 300th day of gestation.

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## ON THE TREATMENT OF RUPTURE, AND ON CASTRATION.

*By Mr. W. MOGFORD, V. S., Guernsey.*

PERHAPS I realize in my own case one of the ends your valuable Journal has in view, and which, as most others in the profession have, no doubt, also experienced it, will go far to illustrate the importance of such a publication. The cases your pages bring

before the public, and the discussions which ensue, have this effect—they bring to our remembrance facts which have fallen under our own observation, and which go either to confirm or to shake the theoretical opinions as to the kind of practice which different correspondents may recommend. As an example, I may instance the splendid case of the never-to-be-forgotten “old black mare,” furnished by Mr. Simonds. The animated debate which followed, and the judicious remarks that were offered, prove how much assistance we may derive from a comparative retrospect of our practice.

In my early days I was sometimes much perplexed and sometimes much exposed to unfriendly observations, with regard to my treatment of ruptures of different kinds, arising from accidents and natural causes in horses, dogs, and horned cattle. During a somewhat lengthened practice in a sporting country, I met with many such cases in hunters and hounds, they being particularly liable to stake themselves in the act of leaping. I have known ruptures of the intestines (the latter extensively torn) in horned cattle, without the skin being broken, which, of course, were always fatal. But all these are of frequent occurrence in the common routine of practice; and your valuable pages must not be encumbered with what falls within the observation of every-day practitioners.

One of the great difficulties we all have had to contend with, I apprehend, is the securing of a proper position of the animal under operation. Even in hounds, I have found great difficulty in returning the intestines, for want of taking the precaution of keeping the fore and hind legs as far distant as possible; for it is obvious that, on the animal being thrown, the legs being confined together, his power in forcing out the intestine is much greater than that of the operator in his attempt to return it. My object in addressing to you these few lines, is principally to give the result of my attempts to obviate this difficulty.

About eighteen months ago, I was consulted by N. Naftel, Esq. of this island, concerning a colt that was ruptured. I observed that such was often the case with colts, but that it generally disappeared as they grew up, and recommended that no notice should be taken of it. Mr. Naftel being in want of a stronger horse than the mare, exchanged her. She and her foal then passed into different hands, until they came into the possession of Mr. Allez, farmer, who soon after consulted me about the colt. I gave him the same opinion I had given to Mr. Naftel, but added, that if he found it did not go back, he might bring him to my stable, and I would see what I could do for him. Accordingly, a short time since he brought him, observing that it was smaller, but that if I could do any thing for him he would wish to have it done.

I had him put into one of my frames, that he might be familiarized with it before I attempted my intended operation; for I calculated that, supposing I should succeed in reducing it as he lay down, in getting up the gut would be likely to protrude again. After taking this precaution, I proceeded to introduce my arm up the rectum, and distinctly felt the small intestine under my hand. With some difficulty I drew it up, and I have not heard of any return since he was taken home.

I intend, if permitted by the owner, at some future time, to castrate him standing, twisting the artery with the torsion forceps. There can be no possible danger, for, should bleeding take place, it could be readily stopped by pressure on the internal arteries.

It was also with much pleasure I read the Essay on Castration by that indefatigable practitioner Mr. Daws. I trust it will be the means, at least in some measure, of rescuing our noble animals from the barbarous modes to which they have hitherto been subjected.

I have seen much of the practice generally adopted in France, and other parts; to which, on the whole, I prefer even the old English method of the clams and the fire. I think I may say, without presumption, I was rather an adept in the application of that system. I have performed the operation in one minute and a half. Nevertheless, I have seen ample cause for the adoption of another mode. About twenty-five years ago, I received a letter from my late kind friend Mr. White, in which he requested me to take the first convenient opportunity that might present itself to castrate by ligature, and to give him a detailed account of the result. The first that did present itself was rather a formidable one. The horse was five years old, with a scirrhus cord, the property of Albany Saville, Esq., M.P., of Okehampton. I threw the horse on his off side, and drew his near hind-leg towards the shoulder as high as possible. I dissected out and divided the cord. A considerable bleeding took place, as I had no one to assist me who knew any thing of the nature of the operation; but the vessels exposed were with some little difficulty secured. The horse did well, and in less than a month was at work.

When I commenced castrating by ligature, the bleeding of different branches excited a little apprehension in my mind; but the principal artery being once secured, I have never known any bad consequence arise from the bleeding of the minor vessels. Sometimes there is scarcely any bleeding.

The advantages this mode of cutting gives over the old plan need only to be mentioned, in order to be appreciated, especially by the country practitioner. Such know well that it is not always practicable to obtain fire to heat the irons without great delay and other

serious inconveniences. The latter requires more assistance than the former. With the new method I have not unfrequently performed the operation with one assistant alone at the head. Of course, it requires tact and nerve, and without these, except under circumstances extraordinarily propitious, a man can have little hope of success.

I am unwilling to trespass farther on your pages, and shall close these remarks with another case. Last year a thorough-bred colt, four years old, then in training, turned restive. In consequence I was ordered to castrate him. He was in tiptop condition, with the testes remarkably large. I operated with complete success. Such were the peculiar features of the case, that I should not have ventured on my usual plan of only securing the principal artery, had I not had a second remedy at hand. Contrary to my expectations, there were not two ounces of blood lost.

I might, did space permit, adduce another in proof of the small amount of inflammation generally induced by the operation. I allude to a horse of Joshua Riculx, Esq., in this island, which I castrated about fourteen years ago, and which he rode three days after. But it must be admitted, nevertheless, that this cannot be stated as the rule, but rather as an exception, although a useful one, and as going to prove the perfect safety of the system.

With sincere wishes for the continued success of your valuable publication, I am, &c.

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## A CASE OF POISONING BY THE RANUNCULUS OR CROWFOOT.

*By the same.*

I BEG to state a case I have lately been called to as further confirmatory of the crowfoot being, occasionally at least, the cause of those ulcers, blisters, &c., as described by Professor Gellé in his work on "Cattle Pathology," which gave rise to my paper in your Number for October in the last year.

F. De Jersey, Esq., requested my immediate attendance on one of his coach-horses which was dangerously ill; and, as circumstances prevented my going immediately to him, the horse was brought to me by the coachman, who was much alarmed at the state in which the animal was, having left him quite well on the preceding night.

The symptoms were, swelling of the head, running at the eyes and mouth, with large blisters under the tongue, which rendered him nearly incapable of opening his mouth or eating any thing; there were also great stupor and a full pulse. There was so near a resemblance to what I had before witnessed as symptoms



occasioned by the crowsfoot, that I asked the coachman if the horse had not been out to grass: he said, no; that he was kept in the stable and fed on hay and corn. However, I bled him, and gave the remedies I have formerly described.

On my visiting him in the evening I observed some grass—a very small quantity—on the outside of the stable, appearing as if it were dropped in carrying there, which induced me to inquire if some of it had not been given to the horse. The coachman replied: that he had cut some the night before, and given him. I asked him whether he knew the herb called crowsfoot: he replied in the affirmative. “Do you know,” continued I, “if any grows where you cut the grass you gave the horse?” He said, “No.” But as I felt more than usual interest in the case, I went to the place where the grass had been cut, and found in the surrounding meadow, which consisted principally of a swampy piece of ground, plenty of the ranunculus.

In order that we may arrive at facts, let me observe how necessary it is to make a thorough investigation. It would appear extraordinary that the animal should persist in feeding upon a herb so evidently noxious. Anxious to account for it, I led a horse to the spot alluded to, and watched him, and found that he carefully avoided the isolated herb, and only admitted it into his mouth when in connexion with the surrounding grass; which will account, I think, for the fact, observed by Professor Gellé, that the disease exhibits itself more in September than at any other part of the year; for at that time, if the field has been mown, it is not much higher than the grass, and cannot be so easily avoided by the animal. I have observed the frothing at the mouth in five minutes after horses have eaten it.

Hoping these passing remarks on one of the questions lately mooted in your valuable miscellany may prove advantageous to the pursuits you are so laudably anxious to encourage, I beg to subscribe myself, &c.

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## THE CORNISH HORSE.

AT the last meeting of the Cornwall Agricultural Association, of which our worthy coadjutor, Mr. Karkeek, is, much to his honour, and a noble example for others to follow, *the Secretary*, some useful mention was made of the Cornish horse, and the improvement which it was desirable to effect in him, and the mode of effecting it. The Editor of “The Cornwall Royal Gazette” thus speaks of what Mr. Karkeek said on this subject:—“We would point out Mr.

Karkeek's remarks on the degeneracy of the Cornish horse, and the means proper to be taken for the restoration and improvement of the breed, as particularly worthy of notice. This is a question, in the discussion of which Mr. Karkeek's habits and pursuits, joined to an excellent professional education, qualify him to take the lead; and it is due to him to say, that, upon every fitting occasion, he applies himself to it with the most commendable zeal and perseverance. We hope—nay we are persuaded—that his exertions will eventually produce the desired effect; and that our landowners and farmers will, under his judicious advice and direction, apply themselves as earnestly and as successfully to the improvement of their horses as of their other stock. Indeed, men of all classes should combine to promote this desirable object; for hundreds among us, who have no direct connexion with agriculture, feel almost daily the inconvenience and danger arising from the difficulty of procuring in this part of the country the staunch, safe, and useful horse which Mr. Karkeek wishes to see introduced."

In due time Mr. Karkeek's health was proposed and drunk. He acknowledged the compliment paid to him in the following terms:—

"I feel greatly honoured by the high compliment you have paid me, and I assure you that no exertions on my part shall be wanting to promote the interests and the objects of this Society. I have been highly gratified with our exhibition to-day, as well as with the improvements that have taken place within these few years. Our North Devon cattle are, many of them, equal to any that could be found in the district from which we have taken them, and those of the Durham breed are also excellent. Our sheep and swine, too, are mostly of a superior description. But I have found most satisfaction in the show of horses, which exceeded, in all respects, that which I have witnessed at any previous meeting. Still our horses are not altogether what I could wish. The Cornish horse is confessedly of a very ordinary character—perhaps inferior to that of most other counties: and feeling, as I do, a lively interest in what concerns the improvement of this most useful animal, I shall venture to state my opinion upon that subject to the meeting. One of the causes which have led to the deterioration of our horses is to be attributed to the farmers themselves. They shew great skill and judgment in breeding cattle and sheep, and even pigs, but the breeding of horses is a matter which they leave to chance. They breed from the most worthless of their mares, selling the young and valuable ones, which, if kept for breeding, would prove a source of profit year after year. Another cause is the injudicious choice of stallions, and that, too, of those brought into the county expressly to improve the breed. I do not mean to question

any man's judgment in particular; and I am aware of our obligations to gentlemen who have incurred great expense and trouble in introducing horses, by which, to my certain knowledge, they have sustained great losses (*Hear, hear*). The late Mr. Trevanion lost, by that very superior horse, *Artist*, £60 or £70 per annum; and yet that was decidedly the best horse ever brought into Cornwall. With this exception, and one or two others, our stallions have been very indifferent, the thorough-bred ones being mostly the refuse of other counties.—But Cornwall, though unhappily foremost, is not alone in the misfortune of wanting good serviceable horses; and in respect of hacks and hunters, there is scarcely a county in England that has not reason to complain. This is owing to the modern style of racing, and not to any unfavourable change of soil or climate. In every department of life, men are anxious to discover the shortest road to profit. This they have done in breeding and training race-horses—perhaps to their own immediate benefit, but to the great disadvantage of those noble animals, and, indeed, to the breed of horses in general. They have gained their object—speed for a short distance; but to effect this, they have sacrificed the essential qualities of strength and duration. But the ‘Turf’ itself has lost ground as well as the horse; and instead of being the arena of honourable contention, it has become the scene of gambling and fraud: so that victory, with its gains—for it has no laurels—too often falls not to the best horse, but to the most accomplished blackleg! (*Hear, hear*). This wretched system has produced a decided and a most injurious change in our thorough-bred horses, and, of course, in our *half-stock*.—I know that it is much easier to find fault, than to point out a remedy; yet I will endeavour to propose one. The horse I would recommend is the Cleveland bay blood, for this would form an excellent cross with some of our strong active mares; but we must first improve the mares themselves (*Hear, hear*). They have too much bone and muscle in their heads, and too little in their limbs; and, to cure this defect, we should introduce a strong active Arab horse. This would certainly do a great deal of good, and could not possibly do any harm. In support of this opinion, I may adduce the authority of Mr. Youatt, the first that could be obtained. I wrote to him on the subject. I gave him not the slightest clue to my own opinion; but I asked him ‘how we should best improve the Cornish horse?’ I did not know that he was a native of the contiguous county, and thus practically well able to enter into the very pith and marrow of such a subject; but I was surprised and gratified to find his answer containing the precise facts and reasoning which had made so deep an impression on my own mind, and that we had entered, as it were, into each other's thoughts. The OLD FORESTER and CRAVEN, two

experienced and distinguished writers, also recommend the cross of the Arab for half stock. Our best blood is derived from the Arabian; and all must acknowledge that our horses formerly possessed those very desirable qualities, stoutness and compactness, in a very eminent degree. Our present stock, too far removed from the Eastern blood, is deficient in strength and durability; but the remedy is obvious. Let us go to the source whence our ancient superiority was derived, and we shall again look upon our horses with pride and pleasure." (*Loud cheers.*)

## THE VETERINARIAN, JULY 1, 1840.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

### PRESENTATION OF THE MEMORIAL OF THE MAJORITY OF THE VETERINARY PROFESSION TO THE GOVERNORS OF THE ROYAL VETERINARY COLLEGE.

IN order to afford the practitioners in town every information regarding the wishes of the profession at large, and likewise to confer with them regarding the presentation of the Memorial, a meeting of the profession was summoned for June 6th, 1840, at which meeting Mr. Mayer, jun., attended; and after informing the meeting of what had been done by his father and himself, and having read to them many letters from the country practitioners, the following resolutions were unanimously agreed to:—

“That the Memorial be presented by a deputation chosen from those members of the profession who have signed the document, and are resident in or near the metropolis.

“That the deputation shall consist of twelve members.

“That Messrs. James Turner, Joseph Sewell, J. H. Langworthy, Francis King, jun., J. Nice, Thomas Turner, J. B. Simonds, William Mavor, William Field, J. W. Mayer, H. Daws, and J. Jones, be empowered to present the Memorial; and that they be requested to address the Governors in support of its prayer, and to urge upon them the necessity which exists for a Charter of Incorporation.

(Signed)      FRAN. KING,  
   *Chairman.*

“Imperial Hotel, Covent Garden,  
June 6th.”

On Monday evening, June 8th, the members of the deputation met at the Imperial Hotel, Covent Garden; and, having elected Mr. Thomas Turner to present the Memorial to the Governors of the Royal Veterinary College, and fixed what letters should be read to them, they adjourned to Wednesday, the 10th inst., to meet at the Thatched House Tavern, at twelve o'clock.

*June 10.*

The annual meeting of the Subscribers to and Governors of the Royal Veterinary College being held on this day, the following delegates were at their post,—Messrs. Daws, King, jun., Jones, Mayer, Nice, Joseph Sewell, Simonds, and Thomas Turner. Satisfactory excuses were received from the other delegates.

The Governors having been informed by Professor Sewell that a deputation of the profession was in attendance, it was immediately introduced and courteously received.

*John Angerstein, Esq.*, occupied the chair of the Governors, and addressed the deputation in nearly the following terms: "Gentlemen, we have considered your Memorial, but it contains so many points, that it is necessary for us to take some time for satisfactory examination of the matter. We understand that you have had an interview with Lord John Russell on the subject of a charter: will you state the nature of the interview?"

*Mr. King* stated that Mr. Mayer was principally concerned in this. The wish that seemed to prevail through the whole profession, with regard to the possession of a charter, arose from the extreme inconvenience to which the veterinary surgeon was exposed, both in town and country, in being called upon to fill certain parochial offices, from which the human surgeon was exempt. Inquiry being made at the Home Office by Mr. Mavor, and he believed also by Mr. Youatt, with regard to the possibility of the abatement of this nuisance, the reply was, that nothing could be done, unless a charter of incorporation was obtained. The annoyance to the country veterinary practitioner, who is often obliged to ride so many long miles to see and do justice to his patients, is often extreme. Mr. Fox Maule recommended Mr. Mavor to petition the Marquis of Normanby on the subject.

*The Chairman.*—Have you done so?

*Mr. King.*—There has not been time for it.

*Mr. Behrens.*—What, besides, do you expect to obtain by the charter?

*The Chairman.*—I conclude that you wish to be placed on an equality with the human practitioner in these respects?

*Mr. King.*—Precisely so.

*The Chairman.*—The human surgeon cannot prevent Morison or any quack from selling his pills. Nevertheless, I think it exceedingly important that you should possess the immunities to which you refer.

*Mr. Behrens.*—So far as your practice and the sale of your medicines are concerned, the possession of a charter would be of little advantage to you.

*Mr. Mayer* replied that the blacksmith and the cowleech would no longer be able to assume with impunity, and with essential injury to the former, titles which did not belong to them. The term “veterinary surgeon” would be confined to him alone who had pursued, at the proper institution, the appointed course of veterinary study.

*Professor Sewell.*—Are you not aware that a charter has already but unsuccessfully been applied for?

*Mr. Mayer* replied in the affirmative.

*The Chairman* took it for granted that a strong body of the profession was favourable to the prayer of the Memorial. The Memorial might be received as an expression of the feeling and wishes of the profession.

*Mr. Mayer.*—Decidedly so; and in corroboration of this, he had several letters now in his hand, and, indeed, he had brought the whole of the letters with him to the metropolis. With the consent of the Chairman he would read a few extracts from those he now held, adding that, with very slight variation, he had the recorded opinion of 315 licensed veterinary surgeons—a very decided majority of those who have obtained diplomas from the College.

Mr. Mayer first read an extract from a letter received from Mr. Pritchard, of Wolverhampton, because it bore on the point which, as yet, had been principally adverted to. “We must apply our



shoulders to the wheel, and endeavour to obtain an act of parliament, to protect the practitioner, after all his expense, and labour, and study, in acquiring the Royal Diploma, otherwise it will be an act of injustice to ourselves and our posterity." Mr. Taylor, of Bury St. Edmunds, strongly urges the same point, although in a different way. He says that "he hopes some means will be adopted to protect the pupil who is constant in his attendance at the College, and regularly obtains his diploma, against those who are establishing themselves in all parts of the country, calling themselves veterinary surgeons, but who never were at the College, or staid but a few weeks or months only." Mr. Dickens, of Kimbolton, writes to the same purpose. "If there is one portion that wants alteration more than another, it is that relating to the men who are imposing on the public under the name of veterinary surgeons, but have no other pretension than that of having walked into the place—deposited the twenty guineas—wasted a few short months amidst the gaities and vices of the metropolis, and then returned, without having been seen in the College more than twice or thrice, and have never dared to apply for their diploma. I knew such an one who was a mere casual pupil—a day scholar at the College—who never attempted to pass, but has, since that time, started two brothers as veterinary surgeons, and now advertizes himself as a veterinary teacher. It is against men like these that the regular practitioner ought to be and must be protected."

With reference to the fee demanded at the College, Mr. Mayer stated, that there was but one opinion throughout the whole profession as to the propriety and necessity of its being increased, and that to a very considerable extent. The decided majority of practitioners were for having it doubled. Mr. Taylor said that "he should like to hear that the fee for each pupil was forty guineas instead of twenty, and on these terms he would rather send his son, who would, he hoped, become a pupil in a few years." Mr. Hallen thus writes, and his argument is unanswerable: "I am induced to believe that the additional sum proposed is too small. If the present lecturers are now ill-paid, how can the additional sum of ten guineas remedy the defect, especially when it is considered, that the appointment of a fourth lecturer is demanded."

If the admission was made forty guineas instead of twenty, it would not be a fraction too much; for let it no longer be said, that one of the lecturers, and one of the most talented and deserving, officiates as a clerk. I perfectly agree with the remarks of the Editor of *THE VETERINARIAN* on this subject; he has placed the situation of that truly intelligent man, Mr. Morton, in its proper light.

*Mr. Mayer* stated, that if he produced the whole of the letters which he had received on this subject, they would be found to contain sentiments of precisely the same purport. This was not a measure got up by a few factious and disappointed individuals,—it expressed the feelings and the wishes of the united body. He scarcely knew a similar instance on record, in which so great a majority of a profession united together for the accomplishment of one definite object. He was assured that it would receive from the governors the dispassionate consideration which its importance demanded.

On one subject he might be permitted to touch before he sat down—the disproportionate and disgraceful smallness of the fee, compared with that at any of the institutions for the education of the human surgeon. He would refer to that noble establishment Guy's Hospital, and to which so many of the Examining Board had belonged, or did continue to belong. All expenses being included, it was four times that required from the pupil at the Veterinary College. Why was this? What was the impression which it would make on the public? How disgraceful must our paltry fee appear in the estimation of those who had the interests of the veterinary profession at heart? Respectfully, but earnestly, he called on the governors to wipe away this reproach, and by the increased initiatory fee, to let it appear to the public that they did not conceive of the veterinary profession as a study of little worth, but that there was something in the education of the veterinary surgeon which deserved some greater expenditure of money and of time.

*Mr. Behrens* remarked, that the greater number of these points, and particularly the amount of the fee to be demanded of the pupil, had been thoroughly discussed by the governors during the last session, and it was unanimously agreed, that all that could be done at that time had been done. The Professors had been consulted

on these particulars, and they had declared themselves perfectly satisfied. He did not expect this so soon to be brought forward as a matter of complaint. What would be the consequence if the fee was raised? It would exclude altogether the sons of farriers and smiths, whose pecuniary means were limited. We must look to the public, and endeavour to extend veterinary skill and science to the most obscure and remote places, as well as to practitioners in populous districts; and, if the profession and the public are satisfied, we must not increase the amount of the fees. "Allow me," said he, "to add, as a very old governor of Guy's Hospital—the best, perhaps, in the metropolis—that the fees of the Veterinary College were regulated by it. The late Professor Coleman used to observe, that where talent was united with an early knowledge of the horse, the sons of these men, who would now be for ever excluded, proved the best practitioners."

*Mr. Mayer* said that, in the country, much inconvenience was experienced by the regularly taught practitioner from the ignorance and obstinacy of the illiterate smith; and it was the object of those by whom the Memorial was signed, that every man professing the veterinary art should possess a competent knowledge of it. From the ignorance of the mere pretender, those who had done justice to themselves were occasionally brought into serious disgrace. A smith in his neighbourhood had two sons in practice who never passed the Veterinary College. Some time since, whether rightly or wrongly, an action was brought against one of these sons for maltreatment of a horse. That which the united profession now solicited from the governors of the Veterinary College was, protection against these uncertified men, who assumed a title to which they had no right.

The worthy governor was perfectly in error when he supposed that the raising of the fee would lessen the number of pupils. It might keep away a few disreputable persons, who would be a discredit rather than otherwise to the profession; but experience has uniformly proved in these cases, that a greater influx of respectable and better educated men would be the result. Besides, how will you otherwise pay the other Professors, which it is absolutely necessary for you to have; or how will you remunerate some of the Profes-

sors who are now so inadequately and shamefully repaid for their services?

A list of the fees demanded at King's College was then read and commented upon by Mr. Mayer, and urged, with some alteration and some diminution, as a model by which the fees of the Veterinary College might be regulated.

*Mr. Thomas Turner* entreated, very respectfully but very earnestly, the attention of the governors to a Memorial to which was appended the signatures of no fewer than 315 of the most respectable members of the veterinary profession. It spoke volumes as to the feelings and hopes of the general body. One object solicited, and with regard to which there should not be a moment's hesitation, was the obtainment of a charter of incorporation, exempting the veterinary surgeon from the discharge of certain parochial and other duties, which most materially trench on the few moments of rest which usually fall to his lot. "With your powerful assistance," said he, "I doubt not that we should readily obtain it." He begged again to assure the governors, that the Memorial was not got up with any party spirit or view, but emanated from the whole body of the profession.

*A Governor.*—The signatures, of course, have not been attached without authority.

*The Chairman.*—I cannot for a moment entertain any suspicion of the kind, when I see such respectable men before me.

*Mr. T. Turner.*—Among the signatures are some from very old members, as well as from others who, although just starting in their profession, begin to feel many of the inconveniences to which the Memorial alludes. Eighty letters have been returned from the dead office, or a still greater number of signatures would have been obtained.

*Mr. Mayer.*—The governors have all been written to, in order that none of our requisitions might take them by surprise. From several of them very kind and considerate answers have been obtained. I would particularly refer to one from Lord Skelmersdale, who is prevented from being present by a severe domestic calamity. "I have to acknowledge the receipt of your letter,"—one addressed to his Lordship by the Messrs. Mayer—"which I have

carefully read ; and it appears to me that there is much truth and reason in the statement which you propose to submit to the governors of the Royal Veterinary College at their annual meeting. The long and severe illness of Lady Skelmersdale will prevent my going to London this spring ; nor can I assist the object which you have in view, not knowing any active member of the institution since the death of the late Mr. Holme Sumner. There, is, however, no need of private application on such a subject as this, for a Memorial signed by no less than 286 professional persons is certain to command all due attention ; and I heartily hope that it will do so, and that the result will be satisfactory."

*A Governor.*—If you obtained a charter, your object would be gained, without an increase of fees.

*The Chairman.*—I suggest that you give in writing, on a future day, the substance of what you wish to be embodied in the charter.

*Mr. Mayer.*—A simple charter would gain us one grand point ; but if there were a clause inflicting a penalty for assuming the title of veterinary surgeon without a diploma, we should gain a still more important point.

*Mr. Behrens.*—But this can only be done by act of parliament : a simple charter will not suffice here. We are agreed as to the propriety of a charter of incorporation, if it would afford the least protection to the public, and we would render you our assistance as far as we can : but we doubt whether it would be in our power to inflict any penalty for infringements of that charter.

*Mr. Mayer* hoped that there would be little doubt or fear about that ; and he could venture to say, in the name of the united profession, that if the funds of the College were insufficient for this purpose, they would be ready to contribute liberally to the accomplishment of so noble an object.

*Mr. Behrens* trusted that the funds of the College would be ample to accomplish the object, and that the deputation was satisfied with the attention which had been paid to the Memorial. The view of the matter which the governors took was, to give the profession every advantage consistent with the public good ; and if any feasible method of accomplishing this should be proposed, they would willingly take the matter into consideration.

*Mr. Mayer* begged to hint, before they were dismissed, that the subject of fees had not been satisfactorily discussed. They were now lower than during his pupillage, and far lower than the profession thought they ought to be.

*Mr. Behrens.*—The directors had determined to refer the scale of fees to the consideration of the *Examining Committee*. They—the directors—saw no reason for altering their opinion; but if the Examining Committee thought it advisable that a change should be effected, they would again take the matter into consideration.

*Mr. Mayer* asked, whether they were to understand that all the other subjects of the Memorial were also to be referred to the Examiners' Board. How would they make up the deficiency, if another professorship, which the memorialists deemed to be indispensable, was established, except by raising the fees of the pupil, or encroaching on the funds of the College?

*The Chairman.*—With respect to the additional professorship that you wish to have established, we have fully considered the subject. We have communicated with the Agricultural Society with regard to it, and they feel satisfied with the exertions which Professors Sewell and Spooner are making.

*Mr. Mayer* would wish it to be understood, that the desire which pervaded the whole profession for the appointment of a third professor, and his labours to be confined to instruction in the pathology of cattle, arose not from any feeling of the incompetency of Professor Sewell, but from the plain and manifest fact, that if justice were done to the new system of veterinary education, he would be called upon to do that which no man ever did or could accomplish. Many a time and oft the veterinary practitioner would be called to the treatment of a case which had never been satisfactorily explained to him, simply because impossibilities could not be accomplished. He feared that too many of the pupils who emanated from their school would be placed in this painful and disgraceful situation.

*The Chairman.*—The Examining Committee will best decide on the appointment of another professor, and we shall leave the matter to them.

*Mr. Mayer* again expressed the earnest wish of the profession



on this point, and that the pathological teacher, which the altered situation of the College and of agriculture so imperiously required, should be appointed by public competition.

*Professor Sewell.*—In what county, or in what place, do you propose that the pathological teacher shall be located and shall practise? Should he be placed somewhere in the heart of the country, or reside in the metropolis?

*Mr. Mayer* would leave that entirely to the decision of the governors: but he was anxious for this public competition, for it would then be seen whether he was really capable of discharging the duties that would be required of him: but this also he was willing to leave to the deliberate consideration of the governors.

*Mr. Behrens.*—That is a just and sensible observation, Sir. I would beg to state a fact which happened to myself. “I have (said he) been a considerable sufferer by the murrain among my cows, and the epidemic among my sheep, which have lately prevailed. I consulted the Professor, and benefitted by his instructions, which I think sufficient proof of his ability.”

*A Governor.*—Respecting the time of attendance stated in the Memorial, what are your ideas with regard to other schools—Edinburgh, for instance?

*Mr. Mayer* replied, that, a certain period having been spent in the pursuit of veterinary study, and the obtainment of a diploma being a satisfactory proof that that object had been obtained, it would be a ridiculous and unjustifiable etiquette to demand so long an attendance as if the candidate had come altogether unprepared.

*A Governor.*—Then what time would you require?

*Mr. Mayer.*—One session, with the payment of the usual fees.

*Mr. Behrens.*—This also is a subject for the decision of the Board of Examiners.

*A Governor.*—Their having served an apprenticeship would also be admitted an excuse for their not staying the full time at the Veterinary College?

*Mr. Mayer.*—Most certainly, if that apprenticeship had been spent with a certificated practitioner.

*Mr. Mayer and Mr. Turner* here explained, at considerable length, the present rule of the attendance of the pupil, and the

manner in which it would be affected by the regulations that they wished to have adopted.

*Professor Sewell.*—You wish these regulations to extend to the apprentices of practitioners in Great Britain and Ireland.

*Mr. Mayer.*—Certainly; and to see that candidates for a diploma, claiming this privilege, have been apprenticed to regular graduates for three years.

The conversation then recurred to the students of the London and Edinburgh schools; and Mr. Mayer illustrated this at considerable length by the courtesy which was exercised in this respect between the universities of Oxford and Cambridge, as well as the medical schools of London and Edinburgh. All that was required was, that the regular course of veterinary education should be accomplished, and then a shorter residence would be required at the new school at which the pupil was desirous of accomplishing his education.

*A Governor.*—If a student had completed his course of education at one school, would he have a right to claim the diploma of another on payment of the fees?

*Mr. Mayer.*—Certainly not, although a shorter residence would be required of him.

*A Governor.*—What period?

*Mr. Mayer.*—A twelvemonth, perhaps.

*The Chairman.*—Very proper. We, Gentlemen, are a Committee. The general meeting is waiting for us. We beg leave to express our hearty concurrence in the prayer of a great portion of your Memorial, and we will use our influence in endeavouring to carry it into effect: but another portion of it must be submitted to the opinion of the Medical Examining Committee.

*Mr. Turner* returned thanks for the courtesy which they had experienced, and begged to present a copy of the Memorial, and a List of the Signatures of those by whom they were authorized to lay it before the governors. It consisted of the decided majority of the profession, and contained many a name of which that profession was proud.

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We are pleased that we have it in our power to append these signatures. They will be handed down to our remotest posterity.

George Baldwin, sen. V.S., Fakenham, Norfolk  
Wm. Field, V.S., London  
Wm. Mavor, V.S., No. 48, New Bond Street, London  
Messrs. King, V.S., Stanmore  
Jas. Sewell, V.S., St. Albans  
F. R. Sylvester, V.S., St. Albans  
B. Briscoe, V.S., Liverpool  
H. Daws, V.S., Gresse Street, Rathbone Place, London  
— Faulkner, V.S., High Street, Portsmouth  
Josh. Bretherton, V.S., Liverpool  
Thos. Mayer, V.S., Newcastle-under-Line, Staffordshire  
Thos. Walton Mayer, V.S., Newcastle-under-Line  
J. W. Gloag, V.S., 10th Royal Hussars  
J. Stewart, Andersonian Professor, Glasgow  
W. F. Karkeek, V.S., Truro, Cornwall  
E. A. Friend, V.S., Walsall, Staffordshire  
Wm. Robinson, V.S., Tamworth  
S. Peech, V.S., Sheffield, Yorkshire  
S. Brown, V.S., Melton Mowbray  
Thos. Brown, V.S., 6th Dragoon Guards  
W. C. Spooner, V.S., Southampton  
Alex. Grey, V.S., Edinburgh  
A. Grey, jun. V.S., Edinburgh  
Messrs. Sewell, V.S., 78, Church Street, Brighton  
Jas. Turner, V.S., Regent Street, London  
Thos. Turner, V.S., Croydon, Surrey  
Joseph Sewell, V.S., 313, Strand, London  
Fred. J. Sewell, V.S. ditto ditto  
J. Kent, V.S., Bristol  
Rd. Barrow, V.S., Newmarket  
W. F. Parks, V.S., Bury, Lancashire  
R. Pritchard, V.S., Wolverhampton  
W. Bunnell, V.S., Liverpool  
W. H. Bryer, V.S., Cheltenham  
Joseph Nice, V.S., No. 8, Earl Street, Blackfriars  
R. Collier, V.S., Dublin  
Josh. Wainwright, V.S., Dublin  
Thos. Holford, V.S., Northwich, Cheshire  
Wm. Statham, V.S., Derby

W. Wallace, V.S., Wolverhampton  
W. Burley, jun. V.S., Leicester  
Geo. Corbett, V.S., Worcester  
Jas. Hollinworth, V.S., Manchester  
G. Bainbridge, V.S., Saffron Walden, Essex  
Josh. Proud, V.S., Bridgenorth  
Edmund Charles, V.S., London  
W. Bryant, V.S., Tewkesbury  
Geo. Carruthers, V.S., Lancaster  
J. W. Ions, V.S., Waterford, Ireland  
Hy. Freak, V.S., East India Company's Service, Northampton  
Edwd. Bailey, V.S., Leicester  
C. Booth, V.S., Stone, Staffordshire  
John Careless, V.S., Stafford  
Wm. Baddely, V.S., Hanley, Staffordshire  
Wm. Butler, V.S., Coleshill  
S. Robinson, V.S., Shiffnall  
Josh. Tombs, V.S., Great Barrington  
B. B. Mitchell, V.S., Hull  
E. Price, V.S., Bromsgrove  
Josh. Hall, V.S., Hereford  
S. H. Withers, V.S., Bristol Horse Bazaar  
Henry Richmond, V.S., Chorley  
H. Walger, V.S., Ashton-under-Line  
R. Bowles, V.S., Abergavenny  
John Markham, V.S., Rugely  
Thos. Insley, V.S., Warrington  
Wm. Ford, V.S., Stourbridge  
J. V. Gibson, V.S., Manchester  
Wm. Walters, V.S., Checkley, Staffordshire  
Eusebius Langley, V.S., Checkley ditto  
Thos. Procter, V.S., Solihull  
J. Beeson, V.S., Amersham  
Geo. Harvey, V.S., Great Yarmouth, Norfolk  
S. I. Harvey, V.S., Lowestoft, Suffolk  
F. Cupiss, V.S., Diss  
Jas. Channon, V.S., Bridgewater  
John Rushton, V.S., Dudley  
Chas. Dickens, V.S., Kimbolton, Hants  
Hen. Christian, jun. V.S., Canterbury  
I. Waring, V.S., Liverpool  
G. Dale, V.S., Camberwell  
Wm. Cross, V.S., Colchester

Jas. Wm. Winter, V.S., Guilford  
R. H. Curtis, V.S., Brentwood, Essex  
E. Drake, V.S., Exeter  
— Wardle, V.S., Mortlake, near London  
Nath. Poole Leigh, V.S., Bristol  
Nath. Leigh, V.S., Bristol  
G. Baker, V.S., Reigate  
J. C. Molyneux, V.S., Kilkenny  
Robert Molyneux, V.S., Kilkenny  
— Wilson, V.S., Warrington  
Saml. B. Cresswell, V.S., Leominster  
Wm. Taylor, V.S., Belfast  
C. Snewing, V.S., Rugby  
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J. P. Vincent, V.S., Devizes

W. Wotton, V.S., Tiverton  
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 J. H. Langworthy, V.S., 13, Gloucester Mews, East King  
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 E. J. Tucker, V.S., Liskeard  
 Thos. Stanley, V.S., Edmonton  
 John B. Burch, V.S., Wem, Salop  
 George Baldwin, jun., V.S., Fakenham, Norfolk  
 J. Tyrrell, V.S., Hailsham, Sussex.

There is another name, but it has been mislaid by the Editor. We shall be thankful to have it supplied.

To a list like this we will not add a word until we hear of the decision of the Board of Examiners on the points referred to them. Not many days can elapse ere this will be known. It shall be published in the "Mark Lane Express."

One *fact*, however, must be now mentioned. In the course of Professor Sewell's concluding Lecture, a few days ago, he stated that "*the Governors were fully satisfied of his ability to teach the pathology of cattle, and that it was not their intention to appoint any other Professor.*"

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We shall be forgiven if we particularly request that any communications on this most interesting subject, or on any other, may be transmitted to us as early in the month as possible.

Y.

# GERMAN VETERINARY JURISPRUDENCE.

## SHEEP.

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ACCOUNT OF AN ACTION BROUGHT BY HERR (MR.) T. AGAINST DR. H. TO RECOVER THE VALUE OF SOME SHEEP INFECTED WITH SEVERE DISEASE IN THE CLEFT OF THE FEET.

*Communicated by* PROFESSOR HERTWIG.

[As illustrative of the diseases of sheep on the continent, as descriptive of a disease now prevailing among our British sheep, and as giving us some idea of the state of veterinary jurisprudence on this part of the continent, the following record by Professor Hertwig may not be unacceptable.]

A COMPLAINT broke out in the sheepfold of the plaintiff, Herr T., towards the end of the year 1827, which gradually spread itself throughout the whole flock, and he had never been able to get rid of it. His flock was infected by the sheep of Herr G., a shepherd. This man appears formerly to have been in the service of a wealthy farmer at A—, but came to Urbani in 1824, and was engaged by the plaintiff. He had, at that time, one-and-twenty sheep of his own, which were left at A—, and which he frequently requested the plaintiff to purchase. But as this disease in the feet of sheep was then very prevalent in A—, the plaintiff declined purchasing, or suffering them to be brought to his farm, until he received a warranty from Dr. H., the provincial medical superintendent, asserting that they were perfectly sound.

This account given by the plaintiff does not entirely agree with the statement of G., who persists that he first proposed the drawing up of the warranty and that Herr T., never once expressed a wish to have it. In November, 1824, G. requested the plaintiff to examine his sheep. Herr T. went, therefore, on the 26th of November, 1824, accompanied by a veterinary surgeon named L., to whom he gave the warranty which he had received from G., and which officially attested that the aforesaid twenty-one sheep were, at that time, perfectly free from any contagious disease.

The plaintiff goes on to state, that on the 27th of November, he purchased these said animals on the faith of the warranty which G. had given him; and this is corroborated by several witnesses. The present action was therefore brought to recover the damages caused by the introduction of these sheep into his flock; and he

founds his claim on the fact, that he purchased them and received them into his flock in full reliance on the warranty, which stated them to be perfectly sound and free from all infectious diseases.

After the sheep were purchased from G., at a dollar and a half per head, on the understanding that they were all sound, the latter received permission to go and fetch them from A—. Herr L., the veterinary surgeon, was unable to discover any thing particular with regard to them, and the plaintiff himself only looked over them very superficially, and did not handle any of them.

These sheep were driven from A— by the shepherd G., where the greater part of the flocks were suffering from this disease in the cleft of the foot, and brought to Herr T.'s farm on the 27th inst. and placed among his sheep, who had all been perfectly sound and well up to that period. When these animals had been there a few days they were observed to be suffering from this disease, and which was already so much developed, that it was quite evident it had been on them some considerable time.

The witnesses M. and H. testify that none of the sheep appeared to ail any thing while on the road, and that only one was observed to limp when driven very fast. This testimony seems to be borne out by the fact, that G. carried one of the sheep some distance, not however because it was lame, but because it seemed weary.

According to the statement of Herr T., that portion of the flock among which these twenty-one sheep were placed, very soon became infected with this disease, and it speedily extended itself throughout the whole flock. It was about Christmas, 1824, that the plaintiff first received intelligence, from some of his people, of the existence of this disease among his sheep, and he immediately requested the advice of the provincial magistrates on the subject.

One of Herr T.'s shepherds, named K., states, on the contrary, that he informed the house steward or clerk of this disease, which had appeared in two of G.'s sheep, on the 30th of November, 1824.

The testimony of several witnesses is here produced, some of whom state that they can recognise but eight, others but four, and another but one of the sheep brought to Herr T.'s farm by G., as those which were examined at A— by Dr. H.

The plaintiff further states, that during the period when his flock were all infected with this disease, there was nothing like it any where in the neighbourhood, but that an epizootic prevailed which only assumed a contagious character among the pure Merino breeds.

The *defendant* prayed that he might not be rendered liable for



the damages sued for by the plaintiff, and adduced the following as his defence:—

1st, That the action ought not, in point of fact, to have been brought against him, as the injury was received from the shepherd G.

2d, That, had it not been for very great carelessness and oversight on the part of Herr T. or his people, the disease never could have spread so far; that it required but a slight degree of care and forethought to point out the prudence and necessity of separating all the infected sheep from the rest of the flock, whereby the extension of this disease would have been in a great measure, if not altogether, prevented.

But from the testimony of a person of the name of G., it appears, that the infected sheep were separated from the others, for he says, "I observed one day, I cannot now say exactly when, that several sheep were separated from the flock, confined in the paddock, and limping very much. I inquired of K., one of the shepherds, what was the matter with them, and he replied that they had a disorder in the cleft of the hoof, and that the sheep brought hither by G. had communicated this complaint to them." The separation may not, however, have taken place soon enough, or have been maintained with sufficient strictness and care.

The complainant considers both these pleas to be futile:—

1st, because the loss was caused entirely by the assertion of Dr. H. that the sheep were sound.

2dly, Though he does not deny that the further spreading of the infection might possibly have been prevented by the separation of the sheep, still he maintains, that the only blame which could attach to his people is, that they did not acquaint him with the disease when it first appeared, but kept it from his knowledge for nearly a month. But here it must be remarked, that the shepherd K., as is before stated, mentioned the appearance of the infection to the house-steward, or clerk, on the 30th of November.

The following questions were therefore drawn up, and laid before the supreme court of judicature for judgment to be given on them:—

(a) Whether or not the sheep formerly appertaining to G., and brought by him from A—, were at that time suffering from the disease of the cleft of the hoof; and also, whether they were free from it at that period (the 26th of November) when Dr. H. examined them, and warranted them as sound; or whether it is possible that this disease might have existed at that time, but so concealed, as that no outward symptoms of it were visible?

(b) Whether the disease, which so soon afterwards made its appearance among the flocks of the plaintiff, really was the dis-

order in the cleft of the foot, and whether it may be considered that the infection was brought and propagated by means of the sheep purchased from G.?

In order to answer these questions, it was necessary to ascertain whether this disease in the cleft of the foot, with which the plaintiff's flock became infected, was epizootic, or chronic and contagious.

In fol. 4, of the acts of the counsellor of administration, we find the first report of Herr L., veterinary surgeon, dated 5th of February, 1824, and entitled, "Disease of the mouth, and of the cleft of the foot, which has broken out among sheep."

The second report of Herr L., dated the 19th of February, fourteen days later, runs thus, "the sheep suffer so much that many of them crawl along on their knees." This would seem to shew that the disease is chronic.

The provincial medical superintendent, Dr. H., in his report to the counsel, on the 21st of March, 1824, declares, "that, so far as he has had the opportunity of observing, this disease is generally epizootic, and that in the previous year a great many flocks had been attacked by it; but it only proved very fatal or mortal among half-bred and ill-conditioned sheep." Herr L. also, in a later report, dated the 18th of April, says, "the cure of this disease in the cleft of the foot is procrastinated by the green sickness, which is now so prevalent among sheep."

On the 25th of July, Herr L. says, "this disease begins to diminish or pass away. There are not now above twenty sheep lame with it, and I scarcely think that these are likely to infect others." Lastly, in a communication to the general inspector, the following passage occurs: "The sheep-flocks of A— are not yet entirely free from this disease. There are still thirty sheep which are more or less lame, and which do not appear as if they could be cured."

As these reports contain no description of the disease, they throw but little light on the subject; and it still remains uncertain whether it was the epizootic or the chronic contagious disease in the cleft of the foot which prevailed in A—. We are led to believe that it was the former, since in one place this disease is stated to be "disease in the mouth, and in the cleft of the feet of sheep." Now, it is well known that these two are often united when the disorder is epizootic, but never when it is chronic or contagious. But it is extraordinary that the sheep should, when suffering from epizootic disease, become so bad in a fortnight as to be obliged to crawl along on their knees; and this appears to have given rise to the opinion in Potsdam, that this disease was chronic.

The questions put could be answered much better, and with more certainty, if they were separated and drawn up as follows:—

1. Were the sheep at A— really attacked by disease of the mouth as well as of the feet?

2. Were the cows, oxen, and other kinds of animals, also infected?

3. Was the disease of the mouth and that of the feet seen in conjunction from the first moment of attack until the animal got well or died?

4. Did this disease of the feet, in conjunction with disease of the mouth, prevail in the neighbourhood of A— at the same time, or shortly before, as an epizootic?

5. Did the sheep belonging to the peasantry come in contact with the infected flocks, either on the roads or pastures, and having done so, were they also attacked by the disease?

The following extracts from accounts given by several sheep-owners and large farmers of this disease tend to strengthen the opinion that it must have been chronic, and not epizootic.

1. "At the commencement of the disease, the flesh between the cleft becomes galled or excoriated, and the sheep begins to limp. As it proceeds a sore is formed in the cleft, from which there is a constant flow of matter, and in process of time the hoof falls off, and the sheep can no longer run about. But there is not the slightest trace of disease in any part of the animal excepting the foot. The sheep eats as well as ever, and appears otherwise sound."

2. "This disease developes itself in the following manner:—The flesh between the cleft of the hoof assumes a whitish hue, and the sheep begin to limp. As the disease increases, a very stinking purulent matter flows from between the cleft; and in a short time after this the hoof falls off, and the sheep can no longer walk, but are obliged to crawl along upon their knees. There is no trace of disease visible in any part of the animals excepting the foot, and they eat as well as ever."

3. "The sheep first of all begin to limp, and an ulcer is formed between the cleft of the hoof. In some, the disease increases to such a height that they can no longer move, and in many cases the hoof comes off. Nothing seems to ail these animals besides, and they eat as well as ever."

Howsoever incomplete these descriptions of the disease which prevailed at A— may be, they nevertheless, seem to tend to prove it to be of a chronic contagious character.

Hence the questions proposed to the supreme court of judicature can only be answered in the following manner:—

(a) That two of the sheep brought from A— by the shepherd G. were, as has been testified by witnesses, suffering from dis-

ease of the cleft of the hoof. But it does not appear certain that this disease had made its appearance on the 26th of November, when they were examined by Dr. H. They might be, and probably were, predisposed for it; but the disease never became evident until called forth by the journey from A— to Herr T.'s farm, which may be regarded as the exciting cause; and it was only after this eruption that the disease could be recognized with certainty.

(b) The complaint which broke out among the flock of Herr T. could be no other than chronic disease of the cleft of the foot; and it is very evident that it was propagated by infection communicated by the sheep purchased from G.

Our answer to the first question is founded on the evidence of several witnesses.

S., one of the shepherds, gave the following evidence:—"On the second day after the arrival of G.'s sheep, I remarked that two of them limped. I examined both, and found that the flesh between the cleft of the hoof was excoriated and inflamed, and had begun to ulcerate. There was not, however, any matter running from the foot, nor did the hoof appear to be swelled."

K., another of the shepherds, says, "The Wednesday following the arrival of G.'s sheep, S. shewed me that two of them had diseased feet. I examined them, and found that the flesh between the cleft of the hoof was excoriated and had begun to ulcerate. The animals could hardly walk, and limped terribly."

Another witness, named K., says, "I came one day to Herr T.'s sheepfold and saw several diseased sheep, some of which belonged to his own flock, and others to that of G. These animals limped, and the flesh between the cleft of the foot was ulcerated. Some of them had a stinking matter oozing from the wound."

But as the epizootic and chronic varieties of this disease are at once so similar and so dissimilar, the following may be regarded as some of the most certain and distinctive points of difference:—

1. The chronic variety of this disease is only produced by infection, the other from some noxious or prejudicial atmospheric or unknown influence.

2. The epizootic variety is often met with in conjunction with disease of the mouth—the chronic variety never is.

3. The chronic variety of this disease attacks only sheep, merinos and old country sheep, whereas the epizootic variety attacks all animals with cleft hoofs.

4. The chronic variety can only be got rid of by means of medicinal aid; the other, on the contrary, cures itself in the natural course of things.

5. The epizootic variety frequently is cured by a favourable

change of weather ; the chronic variety only becomes worse in dry weather.

If these distinctions are compared with the testimony of several of the witnesses which we have just related, it will be evident, from the long duration of the disease they describe, from the absence of all disease in the mouth, and from the necessity that there was for medical treatment, that those sheep purchased from the shepherd G. were labouring under the chronic variety of this disease, and that they spread the infection through the whole flock.

The conduct of Dr. H. was exceedingly imprudent, to say the least of it. He ought not to have warranted sheep as sound which came from a flock, some portion of which was suffering from disease in the cleft of the foot, even though he might himself have considered that disease as an epizootic and not as chronic or contagious.

The following facts tend to prove that the disorder which broke out in the sheepfold of Herr T. was that disease of the cleft of the foot termed chronic, and that it was communicated by infection from the sheep purchased from G. :—

1. The length of time that it prevailed.
2. Its communication by infection to the yearlings and dams.
3. The testimony of Herr K., veterinary surgeon, who stated that he was well acquainted with the disease, and that it requires a very energetic course of treatment.
4. There being no one case in which disease of the mouth was united with this complaint in the feet, or in which the disorder was communicated to cattle, or any other animals.

On summing up the whole, we cannot but attribute the extent of Herr T.'s losses to his own neglect and carelessness, and that of his servants ; since it appears from the evidence of the shepherd K., that he informed the book-keeper as soon as ever he observed the first symptoms of the disease among the flock. The evil might have been prevented from spreading any further if the infected sheep had been separated from the others at once, and proper medical treatment applied.

Every sheep owner ought to make it a rule never to introduce any strange sheep which have been ill, or which come from a place where there has been any prevalent disease, into his flock.

*Magazin für die gasammte Thierheilkunde,*  
vol. vi, p. 184.

Berlin,  
Sep. 18, 1828.

## MISCELLANEA.

—  
DIVERSIONS OF THE ANGLO SAXONS.

ONE of their chief diversions is hunting. A king is exhibited by Bede, standing at the fire with his attendants, and warming himself after hunting. Alfred is praised by his friend Asser for his incomparable skill and assiduity in the arts of the chace:—"He is stated to have gone as far as Cornwall to enjoy it." The hunt of Edmund, the grandson of Alfred, at Ceoddri, is thus described by a cotemporary: "When they reached the woods they took various directions among the leafy avenues, and so, from the varied noise of the horns and the barking of the dogs, many stags began to fly about. From these the king with his pack of hounds selected one for his own hunting, and pursued it long through devious ways, with great agility, on his horse, and with the dogs following. In the vicinity of Ceoddri are several abrupt and lofty precipices, hanging over steep declivities. To one of these the stag came in his flight, and dashed himself down the immense depth with headlong ruin, all the dogs following and perishing with him. The king, pursuing the animal and the hounds with equal energy, was rushing onwards to the precipice; he saw his danger, and struggled violently to stop his courser; the horse disobeyed awhile his rein: he gave up the hope of life, he recommended himself to God and his saint, and was carried to the very brink of destruction before the speed of the animal could be checked. The horse's feet were trembling on the last turf of the precipice when he was stopped."

*Life of Dunstan, Cott. MSS. Cleop. B. 13.*

GENTLEMEN WHO HAVE OBTAINED THEIR DIPLOMAS AT THE  
ROYAL VETERINARY COLLEGE, LONDON.

*June 18th, 1840.*

- Mr. Samuel Evison, Hemingby, Lincoln.
- James Murch, London.
- Daniel Gresswell, Great Steeping, Lincoln.
- W. A. Cartwright, Whitchurch, Shropshire.
- W. Bentley, Margate.

*June 25th.*

- S. Ramsden, Bedale, Yorkshire.
- J. W. Hoey, London.
- W. Faulder, Brigham, Cumberland.
- W. Dunn, Delamere Forest, Cheshire.



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VETERINARIAN.

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ON MAN AS CONTRADISTINGUISHED FROM THE  
BRUTE CREATION.

*By Mr. S. MANTHORP, V.S., Colchester.*

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'Twixt that and reason what a nice barrier ;  
For ever separate, yet for ever near !  
Remembrance and reflection, how allied !  
What thin partitions sense from thought divide !

POPE.

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I MUST own myself one of those, who, having perused Mr. Kar-keek's first paper "upon the Future Existence of the Brute Creation," looked forward with some anxiety for the following portions of his talented Essay. Beautiful and flowing and eloquent is that production of his mind ; now carrying us up to empyrean heights, and anon leading us,

"With aspect firm and iron front,"

amongst the wondrous inhabitants of the antediluvian world ; whilst we almost hold our breath at his bold and fearless venture into such unfathomable depths ! Yet, after consideration, I found a feeling of distrust left upon my mind as to the soundness, whatever might be the beauty, of the arguments.

Can it be true, I asked myself, that immortality has been bestowed upon "cattle and creeping thing," as well as man made in God's image and after His likeness ? Are the eagle of the untired wing, and the prowling tiger, and the leviathan of the deep, nay the ephemera of the sunbeam, verily and indeed to live for ever ?—to share in the same high and holy visions of beatitude as the spirits of just men made perfect ; and to partake of those never-

ending joys which "eye hath not seen nor ear heard, and which have never entered into the heart of man, namely, the things which God hath prepared for them that love him?"

Mr. Spooner, in his observations on the "Non-immortality of Animals," has, however, handled the subject in a very clear and convincing manner. Under his wing I would humbly and respectfully take shelter while making a few comments upon the same topic: and I must here beg to observe, that, although my thoughts have been directed into their present channel from a perusal of Mr. Karkeek's Essay, I quite disclaim any thing like entering the lists against so formidable a competitor.

That animals, like ourselves, have their feelings, their wants, and their enjoyments—that they are susceptible of kindness and ill-treatment—that they are actuated by many of the gentler as also the fiercer passions of rational beings—cannot be doubted; but that, because they have a dim shadowing forth of such powers, they should necessarily be immortal, I cannot bring myself to believe. Going any length in admiration of the faithful and devoted attachment of the dog to the human species, I cannot yet hold with the Indian, who

"Thinks, admitted to that equal sky,  
His faithful dog shall bear him company."

The distinctive marks of man's intellect and animals' instinctive reasoning—the boundless yet uncertain guidance of one, the narrow but unerring precision of the other—are so clearly delineated throughout all living nature, whilst their separate provisions are so convincingly shewn,

"As fitting all to be for all most fit,"

that I cannot shut my eyes to a line of demarcation so deeply marked by the finger of the Almighty.

Reasoning at ev'ry step he treads,  
Man oft mistakes his way;  
While meaner things whom instinct leads  
Are rarely known to stray.

COWPER.

And this very fact, that man *does* mistake his way, proves, to my mind, the unalterable difference between intellect and instinct. The latter is displayed in its full perfection at once. It is not progressive: it does not gradually pile evidence upon evidence, and fact upon fact, and thence deduce from their consideration matters of higher knowledge and more extended capabilities. At the most, we but find in those quadrupeds which are domesticated a slight glimmering of understanding, or, more properly to speak, sagacity to enable them to adapt their efforts to those casualties occasionally

occurring ; but such gift is generally accompanied by decreased instinctive powers.

Again ; how beautiful is the display of parental affection in animals ! with what assiduity and watchfulness will they tend their young !—yet on this most natural impulse has been placed the limitation of instinct. The parent and the offspring having performed their allotted task, the tie which held them together is not only loosened, but entirely severed : and why ?—they have no lasting powers of association.

Again ; describe an animal, and you describe the species : but in the human race all are different, having different gifts and powers, and actions, and tendencies, different in their form, figure, and expression. Are the flea, and

“ Creation’s last and loveliest ones,”

both, indeed, actuated by the same immaterial and eternal Spirit ? Does the worm who crawled over Shakspear’s “tenement of clay” actually have the same glorious course of immortality to run as his godlike spirit which once dwelt therein ?

Nor, in denying this blessed boon to animals, do we at all derogate from the goodness of their Creator. As He made them, as He willed they should continue, such a state has its happiness and its duration. But a future existence is incompatible with their present powers : they are not responsible—they are not far-seeing—they are not even suggestive. The butcher, sharpening his knife, does not startle the sheep with the suggestion that his is the throat to be cut.

“ Had he thy reason, would he skip and play ?  
Pleas’d to the last, he crops the flowery food,  
And licks the hand just rais’d to take his blood.”

The pistol, pointed at the head of the worn-out hunter, does not suggest to that animal that his master meditates his destruction : how, then, can it be said that they have within them the aspirations of the human soul, or the same longings after immortality ? But these powers are not necessary to them, and were not included in the scheme of their creation : they have something *seemingly* above yet *infinitely* below such gifts. For, to use the language of one of the most gifted men of our own times—Lord Brougham—“ see how the Bee works, according to rules only discovered by man thousands of years after the insect had followed them with perfect accuracy. This little insect works with a truth and correctness which are quite perfect, and according to the principles at which man has only arrived after ages of slow improvement in the most difficult branch of the most difficult science. But the

mighty and all-wise Creator, who made the insect and the philosopher, *bestowing reason on the latter and giving the former to work without it*, to Him all truths are known, from all eternity, with an intuition that mocks even the conceptions of the sages of human kind."

"All in exact proportion to their state;  
Nothing to add and nothing to abate—  
Each beast, each insect, happy in its own."

But, how narrow is their restricted bound! how unvarying is the tenor of their actions and aptitudes! The eagle in his eyrie, the lion couchant in his lair, and the monsters of the deep in their coral-studded caves, are the same in their habits and qualities as when the Pharaohs sat upon the throne of Egypt. And has man,

"A heir of heaven, and walking thitherward,"

throughout these successive generations displayed no powers contradistinguished from the brutes? O! yes. Buoyed up by pure and lofty aspirations, he has run a glorious course! He has displayed his difference to the animal creation by the endurance of his social affections, and by the train of his moral duties. He has displayed this difference in the power of contriving and executing all those diversified processes of skill and ingenuity scattered over the world; and by the faculty of attaining a varied and endless store of knowledge, and thus rising higher and higher in the magnitude of his conceptions. He has watched long, and read deeply, and thought constantly; and verily his reward hath been great! In every nation throughout the globe he has progressively advanced from the barbarity of the savage unto the godlike majesty of intellectual man; and although, at last, by the unalterable laws of One, who has sent forth the fate of nation after nation, and from whose fiat our own highly-favoured country will not be exempt, the splendour of such kingdoms are obscured, if they do not wholly pass away: then, even then, we are enabled to lay our hands on the altars of the past, and seize from the skeleton grasp of "ages gone" the fadeless records of their mighty deeds—the burning impress of their quenchless minds! Are there any who have not felt the power of that ancient Grecian bard, who, in spite of poesy, blind though he was, yet saw into the depths of the material world; and rolled his sightless orbs over the star-studded firmament of heaven, to elevate and dignify and immortalize his inspirations with the painting of such beautiful phenomena? And our own Shakspear, too, who

"Exhausted worlds, and then imagined new,"

what fearful yet beautiful glimpses has he caught of the workings of the human heart! He has unlocked with the golden key of

thought a goodly cabinet of precious treasures, and made himself master of their secrets. To analyze and lay bare, as he has done, the multiplied actions of his species, is indeed to lift up the intellect of man midway unto heaven, and to grasp an immortality only intended for us after we have "shuffled off this mortal coil."

But above all, and over all,

To man *alone*  
Creative Wisdom gave to lift the eye  
To Truth's eternal measures."

AKENSIDE.

Without this gift, life would have been indeed a dream; but with it, and by it, we are enabled to gaze from off the Pisgah of our earthy pilgrimage towards the borders of the Promised Land! Through its influence we overlook all bodily afflictions; we hold this globe to be but a momentary abiding place, a step for the foot to rest upon; while we shake off from the wings of faith the earth's dust, which impedes our passage to a brighter world.

## REPLY TO MR. W. C. SPOONER'S PAPER ON THE NON-IMMORTALITY OF ANIMALS.

*By W. F. KARKEEK, V.S., Truro.*

To Mr. W. C. Spooner:—

Sir,—It afforded me much pleasure to read your paper on the "Non-immortality of Animals\*;" and, considering THE VETERINARIAN to be a legitimate arena in which animal metaphysics may be fairly and freely discussed, I do not hesitate to meet you in friendly encounter.

In your paper you have endeavoured to maintain two propositions; first, "That the possession of reason did not prove immortality;" second, "That it was not reasonable to suppose that animals below us in the scale of existence were immortal."

Following your own method—and a very clear one it is—I believe that I can shew, notwithstanding the front you have taken, together with the opinion of Mr. Youatt, who actually exults "at the scientific, rational, and unanswerable" position which you have assumed, that you have not succeeded in substantiating either one of your propositions.

As it regards the *first*, having admitted that the lower animals are endowed with reason; that, like man, they are susceptible of friendship and of love, and are influenced by the feelings of hatred and revenge; that they possess the faculties of attention and me-

\* See Veterinarian, June 1840.

mory, and the association of ideas, and, you might also have added, with Mr. Youatt,

“All are but parts of one stupendous whole;”

that “there are degrees up to man, who is the most perfect of all, *the same spirit animating all in a greater or less degree*,” you then go on to prove, and very ably and philosophically you have done so, “that animals required the possession of these several faculties in order that they should be enabled to put into practice the singular and different means of procuring sustenance, preserving themselves and their offspring in safety, and fulfilling their destined purposes in the wide range of animated creation.” But here you stop: we journey no further together, since you deny that those faculties entitle them to immortality, because, forsooth, their reasoning faculties will not enable them to solve problems in Euclid, —“to gaze on the Moon and stars, to measure their distances, calculate their periods and their changes, and to contemplate the mysteries and sublimities of the creation in all their wonder and immensity.”

I perfectly coincide with you, that the distinction between the reasoning faculties of the biped and quadruped is great; to make use of your own beautiful simile, even as that “between the mountain and the molehill—between the Indian’s fragile canoe and the magnificent ship of war; the former merely transporting its owner over the unruffled surface of the lake, the latter bearing a race of beings in safety amidst the fury of opposing elements.” And you then exultingly exclaim, “What greater difference can we desire?” Why, Sir, even this great difference is, by your own shewing, only *one of degree*. It does not disprove their immortality in the least, their souls being far inferior to the dignity of the human soul, and are capable of so great a happiness as man can enjoy.

The principal position which I took in my essay was, that the mind of man differed from that of the brute only in degree, and not in kind; and I contend that the metaphysical argument which proves the immortality of man extends with equal force to the inferior animals.

Having entered into this part of the subject—the *immateriality of mind*—at great length in my essay, it would be a waste of time to go over the ground again, more particularly as you have not even attempted to dispute this position by a single argument. But, to shew you that there are others who entertain similar opinions to mine, I will adduce a few authorities on the same subject that may be considered as worthy of some little attention.

Dr. J. C. Prichard says that “sensation is an attribute of mind,



and the possession of mind certainly extends as far as its phenomena. Whatever beings have conscious feeling, have souls, or immortal minds, distinct from the substance of which they appear to us to be composed. *If all animals feel, all animals have souls.*”\*

The Rev. Dr. Welsh, in his *Life of Dr. Thomas Brown*, says, “Dr. Brown considered the duties which we owe to the brute creation as a very important branch of ethics, and, had he lived, he would have published an essay on the subject. He believed that many of the lower animals have the sense of right and wrong, and that the same argument which proves the immortality of man extends with equal force to the other orders of earthly existence†.”

Crousaz, a foreign author of some note, appears to have had views somewhat similar.

Bonnet writes, “If the lower animals have souls, then soul is as indivisible, as indestructible, by second causes, as the soul of man : a simple substance can neither be divided nor decomposed. The soul of the animal, therefore, can perish only by annihilation ; and I do not see that religion announces in express terms that annihilation ; but I do see that it celebrates the immense treasures of the Divine Goodness‡.”

Hartley, in his “*Observations on Man*,” says, “These creatures (the larger animals) resemble us greatly in the make of the body ; also in the formation of their intellects, memories, passions, &c. And if they should prove to be our brethren and sisters in immortality as well as mortality, in the permanent principle of our minds as well as the frail dust of our bodies, this would have a particular tendency to increase our tenderness for them.” He adds, “that the future existence of brutes cannot be disproved by any arguments, as far as yet appears§.”

Dr. Cudworth, alluding to the possibility of brutes awakening again hereafter in some other terrestrial bodies, says, “this seemeth to be no more than what is found by daily experience in the course of nature, when the silkworm and other worms, dying, are transformed into butterflies. For there is little reason to doubt that the same soul which before actuated the body of the silkworm doth afterward actuate that of the butterfly ; upon which account it is that this hath been made by Christian theologians an emblem of the resurrection||.”

Dr. Barclay says, “Though a presentiment of immortality be deeply interwoven in the human constitution, and (the truth of it)

\* Prichard on the Vital Principle.

† *Life*, by the Rev. Dr. Welsh, p. 460.

‡ Bonnet, *Palingenesie Philosophique*, tom. ii, p. 77.

§ *Ibid.* tom. ii, p. 74-76.

|| Cudworth, *Int. Syst.*, vol. iv, p. 151.

most clearly revealed in the New Testament, yet the Testament affords not a hint that the animating principles of animals are to be dissolved along with their bodies\*."

Warburton says, " I think it may be strictly demonstrated that man has an immaterial soul ; but, then, the same arguments which prove *that*, prove that the souls of all living animals are immaterial."

Bishop Butler thought there was nothing unreasonable in supposing that the souls of brutes were immortal, though far inferior to the dignity of the human soul, and not capable of such a high degree of bliss.

Euler says, " the perception of sensations is an act of the soul's spirituality ; for a body can never acquire ideas. The dog that barks when he sees me is certainly convinced that I exist ; for my presence excites in him the idea of my person. Even the meanest insects are assured that bodies exist out of them, and they could not have this conviction but by the sensation excited in their souls†."

The Rev. John Wesley published a sermon entirely devoted to this subject :—" They (animals) shall be delivered," he says, " from the bondage of corruption into glorious liberty ; even a measure, according as they are capable, of the liberty of the children of God."

Dr. Cudworth‡ also follows in the same track ; and Leibnitz§, Dr. Samuel Clarke||, and Dr. Wardlaw\*\*, beside many others, authors of equal celebrity, maintained that the immaterial thinking substance in man and brute is, in its essential properties, the same ; and that all created existence, of every possible description, must be dependent entirely, and unceasingly dependent, on the life-giving God. He may, indeed, if he pleases, annihilate them on the dissolution of their bodies ; and so he might, if he thought fit, annihilate the souls of men.

I now come to your second proposition,—"*That it is not reasonable to consider that animals are immortal*,—for two reasons:—*one*, that there would be no use in their being so ; and the other, that their faculties are not constituted for immortality."

If we direct our attention to the busy theatre of animated existence, where scenes of wonder and enchantment are displayed in endless variety around us—where life in its ever-changing forms meets the eye in every region, and where every element and every clime is peopled by multitudinous races of sensitive beings, who

\* Barclay's History of Opinions on Life.

† Letters, vol. i.

‡ Cudworth, Inst. Syst.

§ Leibnitz, Theodicée.

|| First and Second Defence.

\*\* Lect. on Eccl., vol. i, p. 166.

have received from the bounteous hand of the Creator the gift of existence and the means of enjoyment. Our curiosity is excited by phenomena in which our own welfare is so intimately concerned, and we cannot help taking a lively interest in the history of living beings in many respects so analogous to ourselves;—"like us, possessing powers of spontaneous motion, impelled by passions and desires, and endowed with capacities of enjoyment and suffering;—like us, in fact, existing as we exist, and vanishing as we vanish from the sphere of observation. To our unassisted reason, many of them may appear useless; and if there should be, as is generally supposed, 100,000 species of insects, of endless modifications of shape, can you tell me what use 50,000 of them are? Or if we direct our attention to the tenants of the deep—the great expanse of ocean, together with the rivers that run into it, and the lakes that are confined in land, all teeming with organized inhabitants.—Linnæus reckoned more than 4000 species—pray, can you, Sir, tell me of what use 2000 of them are? If there are from 1500 to 2000 different kinds of bird, whose rapidity on the wing and instinctive ingenuity in making their nests and providing for their young, and in taking their extensive excursions and migrations, excite our wonder,

"Singing up to heaven's gate, ascend,  
Bear on their wing, and in their notes his praise,"

pray can you inform me of what use one-half of them are? Or, if there be between five and six hundred species of mammalia, some of them, as the horse and dog, admirably adapted to be the friends and companions of man, and others, as the sheep and cow, to afford him sustenance and raiment,—pray can you inform me of what service three hundred of them are? Consider this; consider how little we know of even the minutest designs of God, ere you again dogmatically assert "that it is not reasonable to consider animals to be immortal," because "*there would be no use in their being so.*"

If they are reserved for a future state, and destined, like man, in a new heaven or a new earth, to animate new bodies and of different materials, who will presume to say to the Omniscient and the Almighty, that, having fulfilled his purposes here, they can answer no other purposes hereafter? May they not be reserved, as Dr. Barclay imagines them to be, "as forming many of the customary links in the chain of being, and, by preserving the chain entire, contribute there, as they do here, to the general beauty and variety of the universe\*?"

But you go on to argue, "supposing (you say) that they are

\* Barclay's History of Opinions on Life, p. 398-9

immortal; are they to exist hereafter in the *body* or in the *spirit*? If the former, where is the material to be found in the globe for creating afresh all the lions and tigers, elephants, mastodons, and megatheriums, that have ever existed—to say nothing of the antelopes and the buffaloes innumerable, on which the former animals subsisted? Where are these large beasts to stand? How are they to move? What are they to live upon? They themselves have, ages since, been converted into food for vegetables, these vegetables into pabula for animals; and these again, perhaps, have become food for man; and thus the circle has been moving round, and the same mass of matter, whether it be carbon, or hydrogen, or oxygen, has probably, since the creation of the world, been the food of hundreds of plants, as well as animals, and consequently could never satisfy such numerous claimants, if animals were again to appear in the body. This, therefore, is out of the question; it must be their spirits only that are meant.”

Why, Sir, if this argument is of any service to your cause, the doctrine of the immortality of man is shaken to its very base, and all the doctrines of morality and religion are at the mercy of the winds: our morality is imposture, our religion is hypocrisy, since it must be very evident that the same objections apply to ourselves. And here you have actually given me, although unconsciously, a strong argument in favour of *animal restoration*. Many of the mammalia eat the flesh of others; wolves and men eat sheep, and lions and tigers prey indiscriminately, not only on many of the animals of the desert, but even on us, the self-styled lords of the creation; and they, you are aware, have been known to frequently devour each other. Now, carry out your argument, and ask where the mass of matter is to be found to clothe these cannibals withal?

The system of living nature is all too mighty in its extent, and too wonderful in all its parts, to suppose, even for a moment, that the purpose for which men or wolves were created was that they might eat a sheep, any more than the purpose for which lions and tigers were created was that they might devour men and other weaker animals. This would be but a sorry conclusion; and, yet, if we look no further than mere matter in the utmost perfection of the organization of animals, this is the only conclusion at which we can arrive. And if we come only thus prepared, and proceed only thus far, the *cui bono?* will stand up like a lion in our path, and demand of us, “Wherefore all this display of wisdom, of power, and of goodness, which bears the indelible and unconcealable impress of divinity upon its every step, if the ultimatum to be reached is nothing more than the feeding of a ravenous beast in the wilderness?”

Nay, with such views, we find the racer breaks down with us

before we arrive at the winning-post : we become distanced, and are placed nowhere. There is but one way—but that way is straight, open, and sure—and that is to believe, with the poet, that

“All the wild inhabitants of woods,  
Children of air, and tenants of the floods ;  
All, all are equal, independent, free ;  
And all are heirs of immortality.”

I contend that the body of an animal—whether man or sheep, lion or tiger, cat or mouse—never had life in any other sense than that it was possessed, used, actuated, by the living vital (immaterial) principle. That this *principle*, not being compounded, was not liable to dissolution ;—that this unchanging principle, whether few or many in union with the same soul, are sufficient to denominate W. Youatt the infant, and W. Youatt the aged, the same person ; and, when it shall please *Him* to withdraw these immaterial particles, and to clothe it with a new body, it will be sufficient to denominate W. Youatt dying and W. Youatt living again, the same person both soul and body.

The immaterial principle being withdrawn, the function of organization is at once fairly at an end. This function is connected with, or rather displays itself in, the substance of the being ; but, so far from being inseparable from that substance, and a primary quality of it, it is, in many instances, easily separated, and, once separated, it never in any case returns to the same union. All our chemistry, all our science—by what name soever we may be pleased to call it—fails us here. Let us analyze and decompose as we may, we can obtain no knowledge ; and the combined skill of all the chemists in the world cannot so distil these bodies, as to fetch us in a phial the component ingredient that causes a wolf to eat a sheep, or a sheep to eat turnips.

With regard to the latter part of your argument, if the question means whether the same body will be raised, whether the same atoms which have composed the living animal in the present world will constitute the body raised in the next, both reason and revelation answer it in the negative.

Nor, Sir, need you be alarmed as to where those monstrous animals of old are to stand, or how are they to move. One of Sharon Turner’s “conjectural possibilities” is, “that our earth may be a nursery of the immaterial principle ; that it is here brought into its first state of being in animal forms with a profusion that seems to us unexplainably lavish ; that it may be elsewhere used in some advanced or ulterior condition, and in other modes of material existence. There is a very large part of our globe which has no relation to its human population ; the supposition, therefore, seems

not irrational, that it may have some unexplored relations with those orbs which have been made expressly to be our fellow planets\*.

You will observe, Sir, that Bonnet and Dr. Cudworth entertained similar conjectures, and it is delightful to recollect that in our Father's house there are many mansions: it appears but reasonable to suppose that the inferior animals, who form the principal portion of the animated chain, will hereafter reside in some of them, and contribute there, as they do here, to the beauty and harmony of the whole. It is even pleasurable to think that both they and we are in one of them only here, and that, therefore, there are many more to know.

But let us pass on, for I really had no idea of being drawn into such a lengthened reply at the onset. I would not willingly leave a single query of your's unanswered, and yet there are some which you have put that might as well have been left alone. For instance, in the latter portion of your paper, in allusion to the want of perception of the sublime and beautiful in the lower animals, their having no idea of right or wrong, no *conscience*, being denied all exercise of religious feeling, experiencing no veneration for an unseen being, no aspirations after a future state: this is what you call the grand difference between the human being and the brute.

I allow the difference, but only in degree, and not in kind. I have already sufficiently proved in my Essay that conscience is only a relative term; and I adduced several instances which prove to a demonstration that it is the consequence of education, being only the production of an accumulation of knowledge, or known facts and doctrines: I also shewed that most of our domesticated animals possess consciences according to their capacities and to the education which they have received. I will, therefore, refer you, and the readers of *THE VETERINARIAN*, to pages 662, 663, and 664, vol. xii, for my views on this part of the subject.

There is yet another portion of your second proposition still to be considered, and which, unless I very much mistake, you consider to be quite sufficient to upset my argument altogether:—"Let us go," you say, "still lower in creation, and take, for example, the ephemeron of the moment that dances in the sunbeams, whose beginning and whose end are encompassed by the same hour. Such a being is brought into existence, satisfies its desires, continues its species, and then dies and makes room for others." And you then ask, and very plausibly too, "What purpose can it answer to endow such a being with an immortal soul? What faculties does it possess separate from the body?"

I would first beg to refer you to pages 777 and 778 of *THE*

\* Sharon Turner's Sacred History.



VETERINARIAN, vol. xii, for some examples of mine on this subject, which plainly and clearly shew that no notion can be formed of the uniformity of spirit derived from our similar views of matter, and you will then perceive that I have partly anticipated your argument. But this eloquent passage of your's is worthy of more notice than this; and I cannot pass it thus carelessly by without paying the tribute which it deserves, although it is valuable only for itself, and cannot be of any service to your argument; for I would beg of you to remember, that time and change are great only with reference to the faculties of the beings which note them. The insect of the hour, contrasting its ephemeral life with that of the flower on which it rests, would attribute an unchanging permanence to the most evanescent of vegetable forms; while the trees of the forest would ascribe an endless duration to the soil on which they grow: and then uninstructed man, comparing his transient earthly existence with the solid framework of the world he inhabits, deems the hills and mountains around him coeval with the globe itself.

But you, Sir, are capable of taking a more just and comprehensive view of the wonderful scheme of creation. The extensive suite of tertiary strata, composed of clays, sands, and limestones, containing fresh water, with intercalations of marine remains, in your own immediate neighbourhood, must have long since convinced you that the earth has teemed with numberless forms of animal and vegetable life myriads of years ere the existence of the human race; and that the age, even of the strata on which you dwell (Southampton and its environs), when compared with the primitive formations of the county of Cornwall in respect of their relative antiquity, is but as yesterday. And yet, even in my district, the strata exhibits successive development of living beings. Probably there is not an atom of the crust of the globe which has not passed through the complex and wonderful laboratory of life—so that the interrogation of the poet may be repeated by the philosopher, “Where is the dust that has not been alive?”

And what do these phenomena teach us? Why, that man, while in his ignorance he imagined that the duration of the globe was to be measured by his own brief span, and arrogantly deemed himself alone the object of the Almighty's care, and that all things were created for his pleasures and necessities, now becomes conscious of his own dependence, and entertains more correct ideas of the mercy, wisdom, and goodness of the Creator; and, while exercising his high privilege of being alone capable of contemplating and understanding the wonders of the natural world, he learns this most important of all lessons,—sometimes to doubt the evidence of his senses, and to believe that there are many things

which may happen, both in heaven and earth, that are not dreamt of in his philosophy.

Believing you, Sir, to be imbued with a taste for natural science, one, indeed, to whom Nature unfolds "her hoards of poetry and her hidden spells," I would ask you, to what purpose was the earth impelled in its annual and diurnal course by the hand of Omnipotence? Why did it present new beauties every opening spring, and bring forth its treasures of autumn, and display so many sublime and variegated landscapes? Why did the Sun diffuse its light in every region, and the Moon cheer the shades of night from one generation to another during so many myriads of years; and during which immense period it was successively inhabited by living creatures, some of them wondrous monsters, dragons of the deep,

"Resembling somewhat the wild inhabitants  
Of the deep woods of earth, the hugest which  
Roar mightily in the forest, but tenfold  
In magnitude or terror,"

although no human eye was there to behold them?

That these creatures were especially adapted to some peculiar state of the earth at the period of its development, and presented the same principles of structure, the same unity of purpose, and the impress of the same almighty hand, there can be no question;—can you, then, believe that they were created only to perish, and to have no future existence; whilst man, whose creation we are taught, both by revelation and by natural records, took place but a few thousand years ago, is alone immortal?

If your theory is true, what could possibly be the use of all this elaborate design, without an ulterior object? Can it be possible that the intelligent Creator formed such a world, peopled it with inhabitants furnished with instincts necessary to their existence, simply for the purpose of devouring each other? I cannot believe that they only existed but to shew that life had been, but is no longer, any more than I can believe that cold and heartless philosophy which teaches that death is the end of our existence.

In conclusion I would say, that how far I have succeeded in combatting your two propositions it is impossible for me to decide: my manuscript goes from the desk to the press, and from the press to my veterinary brethren, to stand or fall by a judgment which "casts no shadows before."

I have the honour to remain, Sir,

Your's most faithfully,

W. F. KARKEEK.

Truro, July 8, 1840.

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## GLANDERS.

AN ACCOUNT OF THE BREAKING OUT OF THE GLANDERS IN THE TROOP AND TRANSPORT SHIPS IN THE EXPEDITION TO EGYPT, IN 1800.

*By Mr. W. MOGFORD, V.S., Guernsey.*

I SEND you this narrative in consequence of an article which appeared in your number for the last month, page 458, by that experienced writer on horseflesh, "Nimrod." I think it a duty I owe to the memory of the late Mr. Coleman to state, what I had promised many years ago to send to him, but which promise I am sorry to say I neglected; viz. an account of the breaking out of the glanders among the horses with the expedition to Egypt in 1800.

In consequence of gales of wind the hatchways were battened down; after this the glanders broke out among the horses in the troop ship and in the transport, a collier from Shields, in which no horse had ever before been embarked. I was on board of her; and after the inspection of a veterinary surgeon (who I believe was a Russian), six horses were killed and thrown overboard at one time.

My knowledge of that destructive disease was at that time very limited, and I doubted whether these animals were glandered; but from later experience, and a recollection of the symptoms which I can remember, of which farcy was one, I have now no doubt about it.

For the last fourteen years I have been employed by the States of this Island to inspect all horses before they are landed, as some unprincipled dealers were in the habit of bringing here glandered horses, by which a great many of those in the island became infected. One carter lost fourteen horses, another nine, and many others a serious number; but by destroying all these, and keeping a friendly look-out after our neighbours, we now seldom meet with a glandered horse.

Six years ago I resigned the office of inspector. About that time a Mr. Isemonger, who keeps carts, imported one. The said horse infected about a dozen others, including those in his own stables; the others belonged to some of his neighbours. A short time after another man of the name of Allaire imported five more; but these not having been permitted to live so long, did not do so much mischief as the other single horse of Mr. Isemonger. The dreadful effects of that one case are still extant in the island.

As to the infectious character of glanders, from the experience

I have had since my return from the expedition to Egypt I have no doubt; but that it is infectious to the extent that some suppose, I am inclined much to doubt. I know one horse who worked for two years in a glandered team, and whose death, after all, could be attributed to no other cause than inflammation of the bowels.

About thirty-four years ago I had the care of large establishments under the superintendence of the late Mr. White. In some of these hospitals we had no other division than a brick partition of about eight feet high to separate the glandered horses from the other patients, and *I never knew a single instance of one of those on the sound side of the partition becoming glandered.*

In all fairness I ought to admit what subsequent experience, in a confined locality like Guernsey, has enabled me frequently to put to the test, namely, that the disease will exist in a latent state for a long interval. The following is the most striking case of the kind I have ever known:—

A brown mare was bought at a sale of glandered horses belonging to the same Mr. Isemonger of whom I have already spoken. She was some time afterwards offered to me as a great bargain, but I refused her on account of the unhealthy appearance of her coat, with other symptoms, which I have been taught to regard as ominous. This mare was afterwards sold to H. T. Brehaut, Esq., of Richmond, in this island. She was there got into splendid condition.

However encouraging this might have been to a superficial observer, that circumstance acted as a match applied to hidden combustibles. It awakened and developed that which had lain dormant about three years. She suddenly became ill, and died.

On being opened her lungs were found studded with tubercles; the inferior maxillary glands were enlarged, and this was accompanied by all the other symptoms of glanders.

I have generally observed of horses which have been infected with glanders, that, if they are not worked and are kept low, the disease will lie in a dormant state for a considerable length of time; but as soon as they are put to hard work or fed high, it will break out with great violence, and very soon carry off its victim.

Perhaps the circumstance of my residing in so small an island, where cases cannot escape my observation, enables me so easily to watch the progress of this insidious disease, and to give an opinion with confidence on the features which mark its course.

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## HYPOPIUM, THE EFFECT OF INTERNAL INFLAMMATION OF THE EYE.

*By Mr. JOHN C. QUICK, V.S., Saint Ives, Cornwall.*

As the contributors to THE VETERINARIAN have long remained silent on that scourge of the equine race, ophthalmia, I beg to offer a few remarks, which may not be altogether uninteresting to some of your readers.

A circumstance has occurred in two cases which I have had lately under treatment for ophthalmia that I have never seen any notice taken of by previous writers on the subject, and which convinces me that the inflammation first takes place in the internal part of the eye, and not in the conjunctiva, as generally considered.

Mr. Pritchard of Wolverhampton, in the fifth vol. of THE VETERINARIAN, p. 380, says, "The periodical ophthalmia does not commence in the conjunctival membrane, as some have stated; it is an internal inflammation from the first." I perfectly agree with him on that score; but the circumstance above alluded to, he, Mr. P., has probably not observed so distinctly marked as I did in the beforementioned cases, otherwise I think he would have taken more notice of it. I refer to decided hypopium, which Scarpa, speaking of the human eye, says is the "consequence of severe acute ophthalmia, particularly the internal species."

Where the inflammation was primarily in the conjunctiva, you will find the pupil contracted almost entirely, and having the appearance of a small black streak on the iris. The corpora nigra, at the same time, are not to be seen, but, at the inferior portion of the pupillary margin towards the inner canthus, you will observe the coagulating lymph gravitating to the bottom of the anterior chamber of the eye. In one of the cases the inflammation was so intense, that the lymph was thrown out in such abundance as to conceal entirely the major part of the iris; but in the other case depletive measures were had recourse to at a much earlier period of the disease, consequently the hypopium was of much smaller dimensions. The longer the acute stage is suffered to remain, the greater will be the extravasation and deposition of the coagulating lymph; but, as soon as it assumes the chronic form, or enters its second stage, the quantity of coagulating lymph forming the hypopium leaves off increasing, and from that instant is disposed to diminish.

In the worst case, I had recourse in the second stage of the disorder to the strong mercurial ointment and the hydriodate of potass, well and extensively rubbed around the eye, which had a

very beneficial effect in producing absorption of the hypopium. In the other case, which was not so violent, I used the acetate of lead with the extract of belladonna in solution, which also had a very decided effect. I would, in all cases of ophthalmia, strenuously recommend the internal and external use of mercury, but by no means to use it externally until the acute stage is passed. If this paper should be the means of calling the attention of the veterinary world to that most neglected but most important branch of veterinary subjects, "the horse's diseased eye," I shall be highly gratified.

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### CASES OF INFLAMMATION OF THE UTERUS IN CATTLE.

*By Mr. W. Cox, of Leek.*

IN the summer of 1838, I was sent for to a cow. The symptoms were, a quickened pulse, and great disinclination to move, with almost constant lying on the ground, and a continual straining, as if endeavouring to expel something from the uterus. She evinced great pain whenever the uterus was pressed upon. She was bled and purged, after which anodyne medicine was given to her, and she was well fomented on the regions of the vulva and the uterus.

She remained in this state two weeks, when I began to give calomel, with opium, and used counter-irritants, which soon cured her.

In January last I was sent for to another cow. The symptoms were, a quick full pulse; the patient more inclined to stand than in the former case, and very violent straining, resembling the throes of a cow wanting to calve. After a minute examination per rectum and vaginam, and also external pressure, I concluded, as in the former case, that the uterus was the seat of inflammation. Bleeding, physic, fomentations, and then calomel and opium, removed this inflammation in a few days.

*Remarks.*—Inflammation of the uterus in cows a short time after calving is both a frequent and fatal disease: but neither of these cows had calved many months previous to the attack. The first cow had been out with the other cows and the bull, but she had never shewn any symptoms of bulling; possibly, however, some external or internal hurt might be the cause of her illness: but the second cow had never been out for five weeks previous, not even to the water, and, from all the information which I received with regard to every circumstance connected with the case, this inflammation must have been of spontaneous origin.



Another disease of the uterus has lately come under my notice. In the month of May last, I was sent for to make a post-mortem examination of a heifer that was evidently dying : I found her still living, and a strange object she was. All the muscles from the loins backward were wasted to such an extent, that she had the appearance of bone only, covered with skin and hair. There was a discharge from the uterus like curdled milk, only more of a yellow colour : but, from her manner of breathing, I suspected that much mischief would be found in the lungs. She died almost immediately after my arrival.

*Post-mortem examination.*—All the viscera of the abdomen were healthy, except the uterus, which was wasted away until it was no larger than a middling-sized apple. It was easily torn to pieces, and of the colour of the discharge already spoken of. All the thoracic viscera were healthy, except the lungs, which were much diseased.

*Remarks.*—Five weeks previous to this she was in calf, although not at her full time. The owner thought she wanted to calve, which, however, proved not to be the case ; but as she kept on straining, a cowleech was called in, who put her under treatment for inflammation of the neck of the bladder, as he called it. In a fortnight after the first attack she produced a fine calf, which died shortly afterwards ; the placenta also came away on the same day, but she still kept on straining. In a few days the discharge already spoken of began to flow, and kept increasing until a little while before her death. Had not the lungs become involved and caused her death, I believe that at no very distant time the uterus would have nearly disappeared.

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## A MEMOIR ON THE ESSENTIAL ALTERATIONS OF THE BLOOD IN THE PRINCIPAL DOMESTIC ANIMALS.

By M. DELAFOND, *Professor of Pathology in the Royal Veterinary School at Alfort.*

[Concluded from page 291.]

### II.—DISEASES OF THE BLOOD ATTRIBUTABLE TO ALTERATION AND DIMINUTION OF THE GLOBULES.

Species 1.—*Diseases produced by the diminution of the normal quantity of the globules, with loss of blood externally during life.*

*Diarrhemie* (διαρρῆσις I run, αἷμα blood, FLUX OF BLOOD) of blood. Under this denomination M. Delafond has described a disease of sheep long recognized by the names of *la maladie rouge*, *la ma-*

*ladie de Sologne, pourriture aiguë, or acute rot*, in its most prevalent and destructive form. This disease, or stage of disease, consists in a peculiar alteration of the blood, developing itself under the influence of the same causes which produce *hydrohémie*. We will, therefore, abstain from enumerating them, and will particularly direct our attention to the description of the particular characters of the blood in this disease.

This fluid placed in a *hématomètre*—a vessel for ascertaining the quantity of blood drawn—takes the consistence of a thick syrup like blood the fibrine of which has been extracted by stirring with a wisp: no clot is formed, and the fibrinous matter remains dissolved in the serum. As to the *hématosine*, it is in a very small quantity, and appears sensibly changed.

Dulness, discharge of tears, salivation, and lowering of the temperature of the extremities, are the precursor signs of this disease. A short time after the appearance of these symptoms, a discharge, at first mucous, and then of a bloody hue, proceeds from the nostrils; the tears become red, diarrhœa ensues, and the fæcal matter soon becomes tinged with blood. The urine offers the same character. In a word, the blood exudes from the greater part of the mucous surfaces.

This disease, the progress of which is exceedingly rapid, destroys almost all the animals which it attacks. On examination after death, there are collections of blood in the cavities of the chest and the abdomen; there are also numerous ecchymoses in all the tissues. M. Delafond inquires whether it is possible to attribute an affection like this to any other cause than the peculiar alteration of blood by which it is characterized. The fluidity of this liquid easily explains, according to him, its transudation to the surface of the mucous membranes, and the effusions which are found in the tissues. We perfectly agree with him in his opinion on this subject.

Although this disease is almost always mortal, M. Delafond prescribes a mode of treatment, if not efficacious, yet at least rational. It consists, first of all, in removing the cause as much as possible, and in giving to the animals food of the best kind and in proper quantities,—to which he adds the stalks of Spanish broom and the leaves of green trees. He also recommends camphorated spirit united with tincture of quinine, applications that have been employed with some success in Flanders\*.

\* We have some difficulty in recognizing the precise character of this disease, as so many names and so many descriptions are given of it by the French writers. It seems to answer most to that species of dropsy which arises in the sheep from various causes, but which is always an attendant on the last stage of the rot. One fault which we find, even with the very best of the French writers,

Species 2.—*Diseases caused by the separation of the constituent elements of the globules, with sanguino-serous effusion into the cellular substance of the organs.* *Diastathemie* (*διαστασις* separation, and *αἷμα* blood), separation of the blood. The author of the memoir has described under this name a remarkable alteration of the blood of some animals, in which the fibrine and albumen of the globules separate themselves during life from the colouring matter, an alteration which he attributes to excess of work, or to bad or insufficient food. Accordingly, as these causes have acted separately or simultaneously, and also according to the constitution of the individuals, diastathemia develops itself more or less promptly with peculiar characters which M. Delafond has well observed, and which have led him to distinguish two species of it, the mild and the acute.

The symptoms which indicate the distinction between these two affections are described by the author with the minutest degree of care. We will state them as briefly as possible.

At the commencement of the disease the horses—for the disease mostly belongs to them—are dull, and move slowly, and the perspiration readily breaks out during their work. The conjunctival and the pituitary membranes are dark-coloured. The vertebral column is considerably bowed. The pulse is small and feeble. Soon afterwards a cold or hot œdema appears at the inferior part of the testicles, which are drawn up and let down every moment. Presently the cords become enlarged and painful, and yet the patients preserve their appetite and digest their food readily. Their blood is of a red-brown colour. When it is collected in a transparent vase, it may be observed that the fibrino-albuminous and cruoric elements separate themselves with astonishing rapidity: the white clot is twice as large as the black one, and the serum predominates over both the one and the other. In proportion as the malady, which is almost always fatal, progresses, the horses become evidently and rapidly thin, and the alteration in the blood is more evident. At the expiration of eight or ten days the patients are usually dead.

Morbid lesions are found throughout the whole of the circulatory apparatus. The blood is composed of large clots in all the principal vessels, especially in the *venæ cavæ*, the right cavities of the

is a multiplication of disease, leading to a great deal of repetition and of confusion. Instead of taking a few broad morbid characters of universal occurrence, and considering many minor circumstances as accidental additions or omissions, almost the slightest variation of symptoms or character is designated as a new disease. This is very puzzling to us, and, if we dared to form an opinion, would occasion, now and then, a little confusion in our notions of our neighbours' pathology.—[Y.]

heart, and the pulmonary artery and veins. These clots are formed of two distinct layers, one white superiorly, and very thick; the other, an inferior one, black, and of small size. This separation of the elements of the blood appears to take place during life. The ecchymotic depôts formed in the vascular tissues by the hématosine, and the adherence of the fibrine to the valves of the heart, which we often meet with, and to which M. Renault first directed our attention, seem to leave no doubt on this subject.

Acute diastathemia appears often during the progress of the milder variety. At other times it manifests itself all at once without any precursor sign, but always with a train of alarming symptoms, varied according to the locality which they occupy. Although this disease is uniformly the same as regards its nature, it has received in veterinary medicine the particular designations of gangrenous coryza, and inflammatory swelling of the head. It has been also sometimes improperly termed *charbon*, or a charbonneuse disease.

This affection is characterized at its commencement by all the symptoms which announce mild diastathemia, only that they manifest themselves more promptly, and are sooner followed by the most serious symptoms. Numerous petechial spots appear on the conjunctival and the pituitary membranes, and sanguino-serous tumours, often indolent and circumscribed by a prominent edge, develop themselves at the extremity of the muzzle, at the inferior part of the limbs, and sometimes in other regions of the body. These tumours, which are actually depôts of blood, make rapid progress, and are not long in destroying the animal. Similar sanguineous congestions form themselves in the pituitary membrane and in the lower portions of the lungs, where auscultation demonstrates a hypostatic enlargement, which gradually increases, and appears to follow the progress of the tumours. In those parts which are in contact with the air, such as the pituitary membrane and the lungs, the effused blood becomes promptly decomposed; the tissues which contain it are softened, and degenerate into gangrene, exhaling an infectious odour. This kind of change of the pituitary membrane has often caused gangrenous coryza to be confounded with acute mange.

The blood in both these species of disease, during life and after death, presents the same characters, except that the separation of its elements is more prompt, the white and black clots are smaller, and the serum is found in larger quantities in acute *diastathemie*.

The organic lesions which occasion this malady are numerous and various. In the tissues which are in immediate contact with the air we find in some places numerous ecchymoses: in others a putrid alteration of the blood, with partial softening and decomposition of the organ, which is also converted into an infectious mass

of putridity. In all these tumours two sorts of changes may be observed, the one black, the other yellow; the first is formed by the colouring matter, and the second by the serous element.

In combatting this disease the author recommends good food, light bleedings, repeated every three or four days, and particularly *l'eau de Rabel* (diluted sulphuric acid) administered every two or three hours, in doses of two ounces, in a half pound of water. Under the influence of this mode of treatment, to which he adds the use of other evidently proper means, he has sometimes conquered the mild form of the disease.

The bloody effusions which are observed in almost all the tissues, the fluidity of the blood during life, and the facility with which its elements are separated, are, according to M. Delafond, undeniable proofs of the primitive alterations of the blood, and, consequently, he considers the organic lesions as merely secondary.

### III.—DISEASES OF THE BLOOD PRODUCED BY ALTERATION OF THAT FLUID.

There exists among our domestic animals certain maladies in which the blood drawn from the vessels remains liquid, but under the form of a thick and black syrup, the putrefaction of which speedily takes place. It is to this kind of alteration of the blood that M. Delafond has given the name of *pelohemie* (*πελος* and *αιμα*). He recognizes two species of it; the one he terms *soudroyante*, and the other *carbunculaire*. The maladies described by Tessier as those of the blood, the destructive intermittent fevers observed by M. Dupuy in sheep, and *la fièvre charbonneuse*, are ranged under the first species. The charbon termed symptomatic composes the second. All these diseases have a great analogy with each other, and recognize as causes the alteration of food, septic emanations, and contagion.

M. Delafond passes successively in review these different causes. He first examines the effect produced in animals by mouldy food, and which are indebted for their deleterious action to the presence of poisonous mushrooms, and to a principle of putrefaction. He then considers the pernicious action of putrid emanations on the animal frame, proceeding from the drying up of marshes, pieces of water, and pasturages inundated by rivers; and he establishes the analogy which exists between these putrid emanations and those which animals respire in stables that are ill-ventilated or filled with dung. Finally, he terminates these considerations by an inquiry into the nature of contagion as a cause of pelohemia. This malady is transmitted both by a volatile and a fixed virus, the first proceeding from certain emanations exhaled in cutaneous

and pulmonary transpiration, and from the excrementitial matter, which is often of a bloody character. The fixed virus resides in the blood, and in the serous material which the tissues of sick animals contain. The contagious property of these liquids, long since known, has been demonstrated anew by many experimentalists, especially by MM. Dupuy, Barthelemy, and Leuret, who have made some important researches on this subject.

*Pélohémie foudroyante* appears all at once, and without any precursor signs. It is accompanied by symptoms which denote its serious nature, and it always terminates in death. Although the whole mass of blood becomes diseased, yet the effects of the septic principle are manifested especially on the vascular organs, as the lungs, the brain, the liver, the spleen, &c., and they produce a crowd of varied symptoms. The animals often die within a few hours of the first attack. It is rarely that they pass over the second day; and the blood drawn from the jugular of an animal affected with this malady is of a deep black colour; it is also ropy, and runs slowly. It is one or two degrees below the usual temperature of the atmosphere, and stains the hands deeply with red. When it becomes completely cold it still remains liquid, or is but half coagulated, and readily transforms itself into a species of thick purulent matter of a black colour. When exposed to the air, at an ordinary temperature, for about five or six hours, it begins to exhale an infectious odour, which denotes the principle of putrefaction. If, by means of washing, we endeavour to separate the fibrine which this blood contains, we obtain only a small proportion of this organic matter, under the form of minute granulations. The colouring matter is united with a small quantity of serum, and forms with it a black fluid resembling Indian ink mixed with a little water.

The carcasses of these animals become putrid remarkably quickly, and in a few hours after death a variety of infectious gaseous products escape from every part of the body. Effusions of blood beneath the skin, forming black patches of different sizes, are observed in every organ, and particularly in the vascular tissues. The blood which fills the right cavities of the heart is liquid: that in the *venæ cavæ* is black, liquid, ropy, and foetid, and the vessels which contain it are stained red by the deposition of the colouring matter.

Although *pélohémie* is considered as, generally speaking, incurable, the author recommends that it should be combatted on its first appearance by tincture of quinine, the water of Rabel, and camphorated spirit. Less powerful applications would be of no avail.

As to *carbuncular pélohémie*, it bears considerable analogy to



the disease which we have been just describing. The same causes produce it, and the same symptoms designate it, but with somewhat less intensity. The early symptoms are promptly followed by the appearance of sanguino-serous tumours on the breast, or between the thighs. These tumours are rarely perfectly circumscribed, and always tender and painful towards their centre. If they are cut into it will be found that they are formed at the edge of some serous effusion, of a yellow colour, and having in its centre a deep-coloured central point of black blood.

The appearance of these tumours is generally accompanied by an improvement in the state of the animal. "It would seem," says M. Delafond, "that nature has eliminated an altered kind of blood while depositing it in the sub-cutaneous cellular tissue. This apparent improvement, however, is but of short duration. If the surgeon does not hasten to adopt a rational and decisive mode of treatment, the scene presently changes—the tumour extends in every direction, and becomes particularly softened at its centre—a fœtid humour exudes from the skin—gangrene develops itself, and death speedily follows.

On examination after death, we find all the disorganization that has been described, and, in the tumours, three remarkable lesions. At the exterior there is a yellow serosity; at the centre there is a broken-down putrid mass, resulting from gangrene of the solid parts, and decomposition of the blood; and, finally, on the tissues that are not sphacelated, black spots are formed by the deposition of hématosine.

In order to arrest the progress of the disease, and the appearance of the gangrene, M. Delafond recommends to make incisions into the tumours, to press out the blood and serosity which they contain, and to cauterize them deeply. He advises also the administration of tonics and of antiseptics, means which, in other cases, have not been sufficiently estimated.

The rapid progress of the maladies that are connected with *Pélohemia*—the lesions which they determine—the peculiar state of the blood, and, more particularly, *its virulence*—all demonstrate, according to M. Delafond, an essential change in the constituent materials which constitute that fluid.

M. Delafond terminates his labours by instituting a comparative examination of the diseases attributed to a change in the blood in man and in the inferior animals. He finds a great analogy between the plethora of the human being and the pélohemia of the quadruped. The anhemia and hydrohemia seem also to present the same characters in man as in the quadruped; and "*La maladie tachetée* of Werlhoff"—a disease in the human being consisting of a multitude of rounded spots, red or brown, spread over the whole

of the frame—is analogous to the erysipelatous scab of the sheep. He also traces considerable resemblance between the scurvy of the pig and the gangrenous coryza of the other; and, according to him, the putrid and adynamic fevers, and the different species of typhus in the human being, have much analogy with the diseases called carbuncular, but without eruption, which he has described when treating of pélohemía.

“Such,” adds M. Bouley, “is an imperfect analysis of the treatise of M. Delafond. Let it not be said that he approaches too nearly to, or sometimes advocates the old doctrine of humourism; his simple object has been to assign their true character to various diseases in which certain changes of the blood seemed to him to be the primitive source of disease, while the lesions of the tissues were only secondary. This method of studying disease, by making a judicious application of the doctrines both of humourism and solidism, is the only one by which we can obtain right notions of pathology.”

M. Delafond regrets that he has not been able to carry his inquiries to the extent that he wished. He has been compelled to omit typhus in cattle; icterus in the dog and the horse, and variola in sheep; diseases that have their principal seat in the blood: but so far as he has gone, and particularly with regard to the changes of the blood, he has rendered great service to veterinary medicine, by stating them with so much precision and clearness. He has given to practitioners a new method of discovering the diagnosis, and the treatment of various affections, of which they had before a very imperfect knowledge; and on the foundation which he has laid much that is scientific and useful will assuredly be established.

We make no apology for this lengthened account of the connexion of the blood with many types of disease. If this essay of M. Delafond requires somewhat closer reading and thought than we are always accustomed to bestow on these prolegomena of our art, we shall be amply repaid by the new and accurate conceptions which we are enabled to form of the essential nature and character of these deviations from health.

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## ANSWERING QUESTIONS.

*By Mr. J. B. CARLISLE, Wigton.*

*Answer 1st.*—BROKEN-WINDED mares are not barren. I have frequently known broken-winded mares breed; and during utero-gestation the laborious action of the abdominal muscles has very much subsided, and the symptoms of broken-wind became scarcely perceptible.

*Answer 2d.*—STRINGHALT does render a horse less fit for work than he would otherwise be. About two years ago I had a splendid hackney mare, and an excellent hunter, which had the stringhalt badly: she was able to do ordinary work well; but after a long and hard day's work, particularly in harness, she was on the next day very stiff, and lay down as much as she could. When pressure was applied to the hocks and muscles on the inside of the thigh, she betrayed considerable pain. This is generally the case with horses that have the stringhalt: and, in addition to this, after hard work they will be a little shy about feeding. This mare would wear out a pair of hind shoes in ten days when regularly worked.

I beg to ask whether it is common for a horse with the stringhalt to have bone spavin?

*Answer 3d.*—The LOSS OF A JUGULAR VEIN has more evils attending it than one. First, the horse is, nineteen times out of twenty, never again able to feed from the ground, on account of the parotid gland becoming so exceedingly congested and painful as to completely prevent the animal from reaching the ground. He is also more than usually subject to ophthalmia, and frequently attacked with other diseases of the head, particularly when made to go fast in harness. The principal canal being obliterated or plugged up, the blood is returned by an interrupted course. The vessels of the brain often become congested in consequence of this, and we may easily imagine the result.

*Answer 4th.*—I have not yet ascertained HOW LONG A CRIBBITER MAY LIVE, but I think he will live as long as other horses, unless some illiterate veterinarian kills him with a drench, by some of the medicine passing down the trachea, and producing suffocation or some other mortal disease. He is a frequent subject of flatulent colic, tympanitis, &c., therefore we must place him among the unsound, or at least, the uncertain tribe.

I will venture to ask another question: Is it common for a cribbiter to be a roarer?

His next question is on GROGGINESS,—the very thing that prevents me at this time from writing; so that I must take my leave of the Professor and others for a short period, hoping, however, that he and they will diligently continue the catechising system.

## A CASE OF FISTULOUS WITHERS.

*By Mr. JAMES TINDAL, V.S., Golspie.*

[In THE VETERINARIAN for May 1839, we recorded a case of bad fistulous withers that was under treatment by Mr. Tindal, and with regard to which he had solicited the advice of Professor Dick. We are now able to follow the history of the case. He pursued the mode of treatment recommended by the Professor, and the consequence was that it terminated favourably, although not until the end of October. Shortly, however, after the receipt of Professor Dick's instructions, the owner wished to sell or otherwise dispose of the animal, and Mr. Tindal purchased him for £11. He shall now give his own account of the business.]

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THE sinus again opened near the superior anterior and left side of the withers. I had it well cleansed out with warm water, and then, by means of a splinter of wood and bandages, applied pressure for a few days—but I found that it was impossible to compress the bottom of the sinus; and the application of pressure had already caused such a degree of irritation, that he refused his food.

I then had recourse to an injection of muriatic acid well forced into the sinus, but without any good effect; indeed, it only seemed to prolong his sufferings. I therefore determined, as a last resource, to remove, as Mr. D. suggested, the diseased vertebra, which was effected with great difficulty, owing to its deep situation. Having, with Jeff's hobbles, cast and secured the horse on the right side, I commenced by making an incision five inches long. I removed the diseased soft parts, and having carefully dissected around the diseased bone, without dividing the ligamentum colli, I then, with a very small fine saw, removed the carious bone, which measured three inches and a half in length: it was also greatly thickened, and perforated with sinuses in every direction. I now inserted a seton from above, carrying it obliquely forward and downward to near the point of the shoulder—put a few stitches through the lips of the incision, and then unscrewed the pin of the hobbles.

During the operation, which lasted twenty-five minutes, the animal struggled very much, and the parts bled profusely, and several bloodvessels had to be secured. A great degree of constitutional irritation ensued, but in two days it gradually subsided, though the parts swelled enormously. Warm fomentations were applied twice a-day, and the wounds dressed with the tincture of myrrh et aloes.

The seton was renewed once in eight days, and finally withdrawn

in eight weeks (from the great quantity of pus discharged, I had considerable difficulty in preventing sores from forming down the left leg); at which time a small piece of carious bone (the size of a nut) also came from the wound, after which the parts rapidly closed, and in ten weeks from the time of the operation they were completely cicatrized. His feeding consisted of ten pounds of bran, given in two mashes, and twelve pounds of hay, daily. His withers now present a curious appearance, there being a hollow at the setting on of the neck as large as to contain two hands.

The subject of the above case is nearly thorough bred, and has a most excellent constitution. He is now as useful in the saddle as ever, trotting with ease twelve miles an hour, and I have been advised to ask thirty guineas for him.

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## ON PHLEBITIS.

*By Professor L. V. DELWART, of Brussels.*

[Professor Delwart has published a work on "The special or descriptive Pathology of the principal Domesticated Animals." We hope to be enabled shortly to review it; but, in the mean time, we enable our readers to form some opinion of it, by extracting his account of the disease which occupies so prominent a part in the account of the proceedings of the Veterinary Association, as reported in the present Journal.]

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PHLEBITIS is inflammation of the veins, characterized generally by pain, heat, and induration of the vessel, and a violent *pruritus*, which induces the animal to bite the part, or to rub it against any surrounding body within its reach. The parietes of the veins become thickened; they assume a red tinge, and they are more easily torn. Sometimes they ulcerate, and a fistulous aperture pierces the integument. The surrounding tissues become infiltrated, hardened, and transformed into a kind of lardaceous matter.

The causes of phlebitis are wounds, contusions, compression, ligatures, and, principally, venesection.

The vein most generally affected by phlebitis is the jugular, because it is on it that phlebotomy is almost always practised. It is characterized usually by a painful itching, which induces the animal to rub the wound against every thing within its reach—sometimes by the presence of thrombus—the wound inflicted in bleeding becomes inflamed—its edges are disunited—they separate from each other—they become hard—a sanious purulent fluid, and, sometimes, actual pus, escapes—the surrounding parts become in-

durated—a kind of hard cord, painful to the touch, is formed, and extends from the orifice made in bleeding towards the parotids, which also are often swelled—the skin becomes inflamed and roughened—the animal has difficulty in turning his head, or lifting it in order to seize its food—the mastication is difficult and painful, and abscesses begin to form, whence proceed fistulous passages, through which escapes pus of a bad character and exhaling a putrid odour. The reaction on the general system is dreadful—the animal loses his spirits entirely—he exhibits a state of dreadful suffering, and if gangrene attacks the diseased parts, death is not tardy in putting an end to this series of symptoms.

*Treatment.*—The first thing to be done when the slightest symptom of phlebitis is observed is to place the horse in a situation in which he can neither get at the wound himself nor rub it against any neighbouring body. Refrigerants are then employed with advantage on the inflamed part, such as cold water, or liquid acetate of lead diluted with water. When the inflammation is very great, emollient fomentations are used, or cataplasms of the same nature, embracing the neck, and confined in their place by means of a soft and stuffed bandage. The *unguentum populeum* will likewise be had recourse to\*. All the food should be easy of mastication, as gruel or the farina of various seeds suspended in water, and placed so that the animal has occasion neither to lift his head too high or to depress it too much in order to reach it. Every thing is to be avoided which can cause any considerable movement of the head and neck, for that would much retard the cure, and also produce many annoying consequences, and, perhaps, a fatal one.

If the disease takes on a fistulous character, a sound with a canula must be introduced through the external opening to the very bottom of the fistula. A bistoury must then be passed along the channel of the sound to the same depth, and then, by a movement of the hand from below upwards, and from within outwards, the indurated tissues are cut through, care being taken to preserve a portion of the indurated substance, in order to oppose an obstacle to hemorrhage, which, possibly, could not otherwise be arrested, except by a ligature of the vessel.

This wound should be dressed with pledgets covered with simple digestive ointment, or with basilicon, and which should be placed so as to keep the lips of the wound somewhat apart, the whole being covered by the emollient substances already described.

When suppuration is established, the case is treated like any

\* This is a singular ointment, but a favourite one with the French. It is composed of the powder of the buds of the black poplar, and the leaves of the poppy, and belladonna, and henbane, and black nightshade, mixed together with lard.



other simple suppurating wound, and a cure is soon effected. If abscesses form in different parts of the jugular, they are opened, and treated according to the indication of the case. If there is caries or gangrene, recourse must be had to the cautery, in order to destroy it, and the part must be covered with substances capable of arresting the progress of putrid destruction, such as blister ointment, cinchona, or storax. If the inflammatory symptoms disappear, and nothing but an enlargement of the parts remains, the transcurrent cautery may be employed with advantage, or frictions with the unguentum populeum.

Some have advised to dissect the indurated part, the kind of cord which the jugular now forms, and to extract it entire. This painful and difficult operation is rarely successful. The destruction of parts is fearful, and the animal almost always perishes from the reaction which ensues\*.

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## ON MR. SIMONDS'S PROBANG.

*By Mr. J. C. QUICK, Saint Ives.*

IN perusing the Abstract of the Proceedings of the Veterinary Medical Association, I find that on January 7th Mr. Simonds introduced an instrument for removing obstructions from the œsophagus of cattle to the notice of its members. The debate which followed, and Mr. Simonds' description seem to me to imply a doubt relative to its practical utility. By Mr. Simonds' account it would be requisite to turn the stilet in different directions wherever the obstruction *might* and would be most easily laid hold of.

Mr. Cartwright was desirous of ascertaining whether Mr. Simonds really thought that on drawing the forceps back they would lay hold of the obstruction: he, Mr. Cartwright, had his doubts as to their doing so, for he imagined that the instrument would glide past it.

With all due deference to Mr. Simonds and the worthy members then present, allow an humble individual, but a stanch friend to veterinary science, to speak his thoughts on the subject; for it is by a multiplicity of opinions that we at last come to that "desideratum devoutly to be wished," the truth. I think that if Mr. Simonds had adopted a three-clawed forceps instead of a two-clawed one, there would have been no doubt as to its usefulness. The three claws

\* I have seen, while a pupil, this operation attempted many times without success. I have been informed by several of my colleagues that they have also tried it, but without any fortunate result, for the animals have all died within a few days after the operation.—D.

would more effectually distend the œsophagus, and the pressure would be equal on all sides, in consequence of which there could not possibly be any hindrance to the forceps embracing the potatoe or turnip, &c. You will immediately see the force of my argument, by taking a small linen bag, and distending its sides by means of two fingers, and then by the introduction of the third finger. The two-claw forceps will tighten the œsophagus on the potatoe, &c. as soon as it is below the bulb of the instrument, whereas the three-claw'd one will act differently, as seen by the fingers in the bag.

I think that greater certainty in the withdrawal of the obstruction would be effected by having at the termination of the three claws a small hook turned inwards and upwards. There is no possibility of the potatoe or turnip ever slipping when once within the forceps. Let there be pretty much belly to the forceps, and the claws must take hold,—there is nothing to prevent.

Should my remarks tend, in the least degree, to the advancement of veterinary science, I shall consider myself extremely happy. Allow me to subscribe myself, &c.

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## EXTRACTS FROM CASE-BOOK.

*By Mr. HARRY DAWS, V.S., London.*

### ENTERITIS AND RUPTURE OF THE STOMACH.

*Jan. 23, 1836.*—A BROWN gelding was attacked with Enteritis. He was treated with depletion, a large dose of opening medicine, enemas, &c.; but the bowels were not acted upon until two days had passed, and twelve drachms of aloes had been given. It was then thought that death would ensue from superpurgation; but anodynes and astringents were persisted in until they produced the desired effect. The pulse at one period rose to 130, and so continued for some time.

*March 6.*—This horse was suddenly attacked with apparent gastritis, and died in a few hours. The cavity of the abdomen contained nine or ten gallons of turbid serum. The larger intestines were collapsed, and adherent to the peritoneum near the curvature of the colon. The small intestines were also adherent to each other in several places. The stomach was highly inflamed, and a rupture of the villous portion of it had taken place, so that a considerable quantity of the ingesta had escaped, and insinuated itself between the omentum. The intestines were thickened, and exhibited abundant proof of previous inflammation having been carried on to a great degree.

## HEPATIRRHŒA—RUPTURE OF THE LIVER.

*Feb. 19, 1836.*—A horse suddenly exhibited the following symptoms. Increased respiration; profuse perspiration; great prostration of strength; pulse much accelerated and very small, and membranes blanched. The pulse at the jaw continued to sink until it was quite imperceptible; the horse then became uneasy, and died about twenty hours after the first appearance of disease.

All the thoracic and abdominal viscera were perfectly sound, excepting the liver, which was full of extravasated blood in various places, and an opening three or four inches in length had taken place in the peritoneal coat of one of the small lobes, so that about three pails-full of blood had escaped into the cavity of the abdomen, which was very black, and partly coagulated.

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*March 19, 1836.*—An aged gelding appeared to be restless; the respiration was quickened; the appetite was gone; there was profuse perspiration, and the animal was stupid. He suddenly fell while the coachman was bleeding him, and when only a small quantity of blood had been abstracted. When I saw him, a few hours afterwards, the membranes were blanched, the pulse frequent and thready, indicating the near approach of death. The liver, especially the middle lobes, were filled with extravasated blood, and a lesion of considerable extent in the peritoneum covering the abdominal surface had filled the abdomen with blood.

## ANEURISM OF THE AORTA.

*April 19, 1836.*—An aged bay gelding was admitted for extensive fracture of the bones of the face, which undoubtedly would have terminated happily had it not been for the following circumstance:—

On May 15th, at six P.M., he was seized with restlessness, profuse perspiration, laborious breathing, and pulse, although not much accelerated, yet strong, full, and accompanied by a peculiar thrill, and which was not subdued until more than eleven quarts of blood had been abstracted. The membranes did not present the slightest injection. Sedative and aperient medicines were given, with enemata, and he seemed to be relieved. On the following morning he appeared quite cheerful; but in the afternoon the symptoms of the preceding day returned, and were met by the same treatment, but without affording the slightest relief. The horse died in the evening.

The abdominal viscera were healthy. The lungs and heart were large, but apparently healthy. The abdominal aorta, near the part where the anterior mesenteric artery is given off, was the seat

of an aneurism, extending in length more than four inches, and considerably larger than the tube itself. Depositions of an ossific nature were found in various places in the coats of the vessel. The cuticular coat of the aorta towards the heart was inflamed, and considerable inflammation had taken place within the cavity of the left ventricle.

#### GASTRITIS.

*May 1, 1836.*—A bay gelding had a dose of physic of seven drachms the day before, and for which he had been in a state of preparation for two or three days previously. About five o'clock in the afternoon he was observed to be very uneasy—his respiration was increased; his abdomen very much swollen; his body bedewed with a cold clammy sweat; the countenance betraying intense anxiety; the membranes slightly increased in vascularity, and the pulse from 120 to 130 in a minute, and vascular.

He was bled freely, sedative medicines were administered, and laxative enemata thrown up, none of which afforded any relief.

This plan of treatment was persevered in during the night, the horse continuing to get worse. A little before seven o'clock he became delirious, and soon afterwards fell and died without a struggle.

There was very little turgidness of the vessels or departure from healthy appearance in the abdominal viscera; but they were full of air, and their contents were pultaceous. The stomach was enormously distended with air, but contained little food. The villous coat was completely covered with diffuse inflammation.

## THE VETERINARIAN, AUGUST 1, 1840.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE had hoped to have been enabled to have given more definite and satisfactory intelligence respecting that matter which now absorbs the earlier and later thoughts of every lover of his profession—the manner in which the Governors of the Royal Veterinary College have received and treated the admirable Memorial lately presented to them by a delegation of the majority of the profession.

With the consent and by the desire of Mr. Mayer, the Chair-

man of the Committee of Memorialists, we insert the following correspondence :—

1. (*Copy.*)

Royal Veterinary College,  
London, 3d July, 1840.

Gentlemen,—At a Meeting of the Committee of Governors of the Royal Veterinary College, held on the 30th ult., the subject of the Veterinary Surgeons' Memorial came under notice, and the following minute was made thereon, a copy of which I am instructed to transmit to you.

“The Memorial of the veterinary surgeons, submitted to the General Meeting on Wednesday the 10th instant, and the minute then made thereon, being again fully considered,—It was resolved, That this Committee do not see the immediate necessity for applying to the Crown for a Royal Charter to be granted to this Institution; but that every facility would be given to the veterinary surgeons for procuring an Act of Parliament to prevent certain grievances complained of by the Memorial, which could not be relieved by a charter, and that the Deputation should be furnished with a copy of this minute.”

I am, Gentlemen,  
Your most obedient Servant,

THO. FRANCE,

(*Sec. pro tem.*)

To Messrs. Mayer and Son,  
Veterinary Surgeons,  
Newcastle, Staffordshire.

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2. (*Copy.*)

Newcastle, Staffordshire,  
July 9th, 1840.

Sir,—I have to acknowledge the receipt of your communication of the 3d ult., containing a copy of the Resolutions of the Committee of Governors of the Royal Veterinary College. As the official organ of that body, I address to you the following remarks, it being no less a duty I owe to myself, than also to those with whom I had the honour of appearing at the General Meeting. It

is satisfactory for me to know, that they will receive from you every attention, and that you will not consider them as emanating from any factious or disrespectful feelings towards the Governors, but solely from the desire of promoting, in every possible way, the welfare of our profession, and the propositions of those of whom I was an humble representative.

The minute of the Committee states, that "The Memorial of the veterinary surgeons submitted to the General Meeting on Wednesday the 10th instant, and the minute" (which has not been communicated) "then made thereon, being again fully considered, It was resolved," &c. &c.

The Memorial, you are aware, contains no less than four different propositions; and if, as the minute implies, the *whole was fully considered*, I am at a loss to conceive why the resolution should only refer to the Charter, and that the Deputation should receive the decision of the Governors on that point, and on that point only.

We were informed at the General Meeting, that the propositions would be referred to the Examining Committee for their consideration. It will be satisfactory to know whether this has been done, and what is the resolution of the Committee upon these points; for I am led to the conclusion, that some resolution has been made on the subject, from the fact of Professor Sewell having stated in his concluding lecture, that the Governors "*had resolved*" that no additional Lecturer on the Pathology of Cattle should be appointed, and that they were perfectly satisfied that he was fully capable to perform the duties of Lecturer on the Pathological and Surgical Treatment of the Horse and all domesticated animals.

It is not only important, but it is earnestly desired by the profession, that the *earliest* information should be given to the Deputation on these points; because they feel and believe that no progress can be made in veterinary science, or the profession at large benefitted, until the whole of the propositions contained in the Memorial are carried into effect, for the accomplishment of which they feel it their duty to use their best exertions.

The Resolution itself states, that the "Committee do not see the immediate necessity for applying to the Crown for a Royal Charter, but that every facility would be given to the veterinary surgeons



for procuring an Act of Parliament to prevent certain grievances complained of by the Memorial."

It was stated by myself and others of the Deputation, *on undoubted authority*, at the General Meeting, that we could not go before Parliament *until we had obtained* a Charter of Incorporation. With this information before the Governors, I am totally at a loss to know how it is that there is no immediate necessity for a Charter; and still further, what facilities (except that of a Charter) can be given to the profession to enable them to obtain an Act of Parliament.

A meeting of the Deputation, and perhaps of the profession, is likely soon to be summoned. I am sure you will, on the perusal of these few remarks, see the necessity of some explanation being given, in order that the sentiments and feelings of the Governors may not be misrepresented, or their resolution subjected to that construction which it is quite evident it admits of.

I shall feel obliged by any remarks you may be pleased to communicate to me, also for a copy of the Resolution of the Committee of Governors upon which Professor Sewell's assertion was founded, with the date, and for the opinion of the Examining Committee on the several propositions contained in the Memorial, in order that I may communicate them to the Deputation, and, if they think proper, to the Members at large who have signed that document.

I remain,

Your obedient Servant,

THO. WALTON MAYER, V.S.

To Tho. France, Esq.,

(Sec. pro tem.)

London.

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3. (*Copy.*)

Bedford Row,

16th July, 1840.

Sir,—On the other half sheet you have a copy of the minute of the proceedings of the Governors on the 10th June, when you presented your Memorial. There will be a meeting of the Medical Honorary Members of the College on Wednesday next, when the subjects of the Memorial will be laid before them for their advice :

when that is received, a Committee of the Governors will be convened to determine thereon, and the result will be communicated to you. It is impossible for me, at this season of the year, to say when the meeting will take place.

I am, Sir,

Your obedient Servant,

THOS. FRANCE.

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*(Extract.)*

Mr. Thos. Turner, Mr. King, Mr. Thomas Mayer, jun., and several other members of the veterinary profession, attended, and presented a Memorial on behalf of themselves and others, signed by 315 of that body, which being read, the heads of which were, requesting the Governors to procure a charter and an act of parliament, to prevent illiterate men, who had not obtained a diploma, from practising, or writing up that they had been educated at the College, by which means discredit is brought on the profession; to increase the fee paid by pupils to thirty guineas or more; and certain regulations to be adopted respecting students who had been apprenticed to members. After fully hearing the Deputation and various letters read, the Deputation was informed, that the Governors have had the subject of the Memorial under their very serious consideration, and would most readily concur with the wishes of the Deputation in taking the earliest opportunity of submitting such measures as may seem most advisable to the proper authorities; but that the Governors saw no reason to alter their opinion, which they had formed upon very mature consideration, on the subject of the recommendation as to the increase of the lecturers and the fees paid by the pupils.

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4. *(Copy.)*

Newcastle, Staffordshire,

July 17th, 1840.

Sir,—I have to acknowledge the receipt of your letter, &c. of the 18th; and as it is of the utmost importance for the profession to have the most correct information on the subject of our corre-

spondence, I have thought it my duty to send the whole to the Editor of THE VETERINARIAN, for insertion in that periodical.

Your obedient Servant,

THOS. WALTON MAYER, V.S.

To Thos. France, Esq.  
Bedford Row.

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*To the Editor of "The Veterinarian."*

Sir,—I shall feel obliged by your inserting in THE VETERINARIAN the inclosures marked one, two, three, and four, together with the extract contained, and believe me

Your's, very faithfully,

THOS. W. MAYER, V.S.

Newcastle,  
July 17th, 1840.

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We next insert two letters which we have received from correspondents. They are very different in their style, and in the views which the writers adopt; but each is unanswerable in its way, and cannot fail of making its due impression:—

London, July 16th, 1840.

My dear Sir,—In the leading article of your valuable periodical for June, you observe, that those members of the veterinary profession who have not signed the petition then about to be laid before the Governors of the College "will be sorry for it when the battle is fought and won." Now, the petition has been presented, and I, for one, am proud to say that I did not sign it; yet most happy should I be were the battle won.

My reason for not signing the petition is, that I do not think the appeal has been made to the right tribunal: in other words, I do not recognise the right of a certain number of private individuals, subscribing for their own benefit to a certain institution, to control and regulate the profession with which that institution is connected. In no other profession,—in no other department of science and art,—in no business, even of the most ordinary description, is such an anomaly heard of as that of its being governed by a body of men

uneducated to and unconnected with its particular calling. Who constitute the governing body of the church? Clergymen. Unto whose guidance are the interest and welfare of the law entrusted? Lawyers. Who constitute the council of the College of Physicians? Physicians. Of Surgeons? Surgeons. Of the Apothecaries' Company? Apothecaries. Who govern the Goldsmith's Company, the Mercers, Cordwainers, &c.? Why, individuals selected from each respective body; qualified from their knowledge of and interest in it to watch over and protect it.

Shall, then, a profession enrolling on its list from five to six hundred members,—many of them members of other colleges, and all of them recognised as gentlemen, by the rank given them in Her Majesty's service—be controlled, thwarted, and insulted by a certain number of individuals, aliens to their acquirements, their interests, and their feelings? Sir, again I repeat, that I, for one, am proud of not having signed a petition addressed to such a tribunal.

But while I object on principle to the authority thus usurped, am I borne out by its results in practice? Ay, to the utmost bearing of humanity. What single step have the Governors of the Royal Veterinary College taken for the last twenty years to assist the onward progress of the profession? Why, they invited members to become subscribers to the College, and thereby assist in disseminating its doctrines, enlarging its utility, and identifying themselves with its interest. They decided that veterinary surgeons should constitute a portion (and why at this time of day only a portion?) of the Examining Committee, knowing full well that, from their practical experience, they are best enabled to judge how far the young aspirant for veterinary honours is qualified to practise what he had been taught. But why enter into details when their entire system has been to invite inquiry, to attend to remonstrance, and to accede to the thousand and one petitions that have been laid before them? nay, even going the extravagant length of appointing two professors to teach those departments of the art which, up to the time of the formation of the English Agricultural Society, had, no doubt, received their most serious and deliberate consideration, but with the result of which, up to that time, they had never thought of favouring the public.

But is all this true ? Even if it were, I would still insist, that the veterinary profession should no longer be subjected to governors who, however well-intentioned, can never become identified with the interests of the governed. But what will be the simultaneous reply of the profession ? Why, that this report in their favour is false, outrageously, notoriously false—that, on the contrary, they have *personally* insulted the members by preventing their becoming subscribers to the College—they have *professionally* insulted them by excluding them from the Examining Committee—that they have grossly insulted them by treating their petitions with silent contempt, or replying to them with the utmost indifference and contumely. And what will be the result of the present petition, prepared by two gentlemen who stand deservedly high in the profession ; presented by a committee entitled to respect from any governing body, and signed, as I verily believe, with the very best and most honourable intentions by a vast majority of the members ? why *ex uno disce omnes*. Professor Sewell stated in his concluding lecture, a few days ago, “ That the Governors were fully satisfied of his ability to teach the pathology of cattle, and that it was not their intention to appoint any other Professor.”

Most happy shall I be to join in any measure calculated to improve our profession, provided that the appeal is made where only it can be of real service ; that is, either to the government of the country, or the country itself.

I remain, my dear Sir,

very truly your's,

E. GABRIEL, M.R.C.S.

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## OBSERVATIONS ON VETERINARY PROCEEDINGS.

My dear Sir,—THAT a minute and accurate acquaintance with the physiology, pathology, and the varied structure which compose the animal body in its healthy and abnormal condition is essential to the perfect education of the veterinary surgeon, no matter what department of veterinary science he may afterwards select as the principal object of his attention, or to the practice of which he may confine himself, is sufficiently evident, and we hope that proper

measures will be taken to carry this into effect, and that a far more careful and correct inquiry into the pathology of the ruminant, which has hitherto been so strangely and unpardonably neglected, will be introduced and duly appreciated. Few will deny this is a desideratum which must be accomplished in order to wipe away the disgrace of by-gone days: yet, even at this crisis, we have reason to fear, from what emanated from the Professor the other day, that the mantle of darkness must for awhile continue to rest upon us. Mr. Sewell informs us that "it is not the intention of the Governors to appoint any other professor on the Pathology of Cattle," &c., but that they were fully satisfied that he was able to teach all which was required in this branch of veterinary instruction.

What can we say to this? We all know Mr. Sewell's ardour and industry, and doubt not that he will endeavour to supply the loss of the late Professor; but who will be bold enough to say that he, Mr. Sewell, is competent to teach all that is required on cattle and sheep. Who ever heard the Professor lecture on puerperal fever, or did he ever see a case of it? How far does his knowledge extend on blain, separate from what he lately gathered as the groundwork of his circular on the prevailing epidemic? What is his opinion on red-water as a disease of the urinary or digestive organs? Who ever heard him mention felon, the disease which is often so annoying to the farmer and fatal to cattle? What is his opinion on foul in the foot? What are its causes? What its remedies? To what degree is it or is it not infectious? What is his opinion of the infectious or non-infectious character of abortion in cattle? What has he said on black-quarter in calves? What is his opinion on hemiplegia, paraplegia, and other paralytic diseases that cattle are subject to? What are the warnings—what the diagnostic symptoms—what the cause? What is the extent of his lessons and his experience on the different operations which we are frequently called on to perform? Has he ever practically illustrated the propriety or the impropriety, or the mode of performing the operation of embryotomy, or extracting the calf by piecemeal? Or when did he inform us in what cases the Cæsarean operation might be practised with success, and illustrated by his own example the most scientific method of operating?



On how many of the above diseases has the Professor had the opportunity of attending and carefully studying the nature of the symptoms and the effect of the therapeutics which he recommends to be administered? How many times has he in the College yard, or any where else, operated on cattle, so as to warrant the young surgeon in adopting the proper *modus operandi*? What can be expected of a young man coming from such a school as this?—How will he compete with the country cowleech?

I will venture to say that he will find himself at a complete non-plus when called to the farm-yard on some serious case. What will be the farmer's opinion of him, and of the school whence he came? I hear of strange stories. I could point out the persons, and the places, and the times. "Well;" said the farmer, who had been looking on with indignation, and fear, and contempt, "if this is the College veterinary surgeon there is so much talk about, we can do without him altogether. He neither knows how to bleed a beast or give her a drink. Just look at old Harry Wood, the cow-doctor; he can bleed a cow as it ought to be done, and he can, without assistance, drench her. We sent for *the veterinary* the other day to extract a calf from a cow. He pulled a ring off his little finger, and examined the cow for some time, and concluded by recommending us to send for the butcher, as there was no possibility of extracting it. Here was a pretty conclusion on a valuable milch cow, worth fifteen or sixteen pounds. Our Mary said, 'No; we will send for old Harry, and have his opinion first.' The young *assassinator* (for I think he is worthy no better title) was quite offended, and we could scarcely get him to stay until old Harry arrived to assist him. At length Harry came: he examined the cow, and turned her on her back; and, in less than ten minutes, he extracted a healthy calf."

Would not this have mortified the Professor had he been standing by at the time, to see one of his class completely beaten out of the field by a disciple of the old school?

Is it not essential for a young man before he goes into a country practice with the title of a veterinary surgeon—I say, is it not essential for him to have a perfect knowledge on the diseases of all domestic animals? Is the agriculturist to commit the charge of his valuable stock to half-taught professors, mere false pretenders?

No, no : appoint a fit and proper person to teach the pathology of the ruminant is the clamour from without. Until that is done the veterinary surgeon will be little better than a quack doctor : accomplish this, and it would be of itself a charter.

I was, possibly, as early in the field as many of my fellow vets. I expressed my sentiments in no measured terms in a letter to Mr. Mayer on the subject of a Charter of Incorporation, which I told him, without the required instruction of the pupil, was comparatively of little value. There is one question, however, which it is difficult to answer. How can the old cowleech be dispensed with until our veterinary surgeons are taught the management of cattle in a way likely to profit themselves and their employers ? Until this desideratum is accomplished, the cowleech will remain a useful member, and rightly so.

Is it possible for any man to teach the pathology of cattle without a perfect knowledge of the same ? He must be a practical man alone who dares to accomplish this great and most indispensable object.

If Professor Sewell had talent to do justice to all that he seems to aspire to, he must inevitably sink under the task imposed upon him. No man can accomplish palpable impossibilities. His old pupils—of which I am one—have much regard for him ; but they have more for the profession to which they belong. They would fain blend the two sentiments. In their old instructor they would recognize the benefactor of the profession. It rests with him,—they respectfully, but plainly tell him so—whether the veterinary profession is to take its proper standing or sink into contempt. Let him sanction the appointment of a third Professor. There will be little difficulty in finding one, and the triumph of our art is assured : but let him, influenced by false ambition or mere cupidity, permit the golden opportunity to slip, and ill will it fare with our art, while his name will become a by-word and a proverb.

I am, my dear Sir, faithfully your's,

J. B. CARLISLE, *V. S., Wighton.*

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[We deem it right to preserve the following letters, as samples of a correspondence which we little dreamed would have taken place. It arose from strange misapprehension of the subject. We have others in which the writers err still more egregiously, and ride the high horse a great deal more ridiculously. Mr. Carmichael will immediately see the source of the erroneous impression under which he laboured: his language is unnecessarily caustic; but there is no reason why two valuable schools, whose only struggle ought to be which shall contribute most to the onward progress of our common profession, should be dis-united because a few thoughtless young men choose to make a great and very foolish noise about a subject which they do not understand.—Y.]

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*To the Editor of "The Veterinarian."*

Covington, 13th July, 1840.

Sir,

I HAVE read with some interest the account of the presentation of the Memorial of Veterinary Surgeons to the Governors of the London Veterinary College, and the discussion which followed thereon, and must express my surprise, that it never occurred to the Meeting, or to the Deputation, that unless they were to include the graduates of the Edinburgh Veterinary College in the benefits of the proposed charter, they would do a substantial injustice to them. I think that the memorialists have shewn a degree of narrow-mindedness which will, on their applying to the proper quarter for a charter, defeat their object; because it is evident from the status which the graduates of the Edinburgh Veterinary College have acquired, by being placed in every respect at present on a level with graduates of the London Veterinary College, that any charter conveying superior privileges to the memorialists would interfere with the interests of the Edinburgh graduates, and raise their opposition; and I have no doubt at once form an insurmountable barrier to the obtaining of a charter. Perhaps it will be said, that there was no intention of excluding the graduates of the Edinburgh Veterinary College from the benefits of the charter: that may be so; but is it proposed to include them in it? Was that ever hinted at by the memorialists? Were the graduates of the Edinburgh Veterinary College ever consulted, whether they

would join in the application? Or was it intended by London veterinary graduates to obtain by a side-wind a power of preventing those of Edinburgh from practising in England? Whatever may have been the intention, such would have been the effect. In that, however, I am satisfied they have no chance of succeeding: it is contrary to the spirit of the age. The policy at present is to abolish all exclusive privileges. How, then, can they expect to obtain privileges which would be prejudicial to those equally as well entitled to them as themselves?

I have observed lately too much inclination among the London graduates to write as if there were only one college; and sometimes even that tendency in your own leaders; but, certainly, nothing quite so selfish as the application for an exclusive charter. However, I am much mistaken if Professor Dick is the person to allow them to have things all their own way. He has hitherto kept too sharp a look-out for the interests of his pupils to neglect them now: there can only be one charter, granting the same rights to both colleges, or two charters granted at the same time with reciprocal rights, if any is granted.

As to the other points of discussion, I do not feel so much interested; but I am sure I and my fellow graduates of the Edinburgh Veterinary College would be glad to aid their professional brethren in England in obtaining the exemption which surgeons enjoy. These in Scotland, however, are few: our burthens are chiefly those of attending as jurymen, which are but light. As to the amount of fees exacted, I agree with the memorialists that, for those who have already graduated they cannot be too high; but on this head, as well as the other points, it will be impossible to obtain their object unless the fees of the Edinburgh Veterinary College are also raised, which are now only half those at present charged at London; or unless some advantages are to be gained by paying the higher fees at London, which I have not heard asserted.

In those cases where a graduate of either college wishes to attend the other, or to obtain a diploma, I think few will now be found who are so flush of cash as to pay the fee without expecting to obtain some information. It is absurd to require them to attend longer than they think they are reaping benefit; it were therefore well to make the length of time optional. The College of Surgeons in London only require to know that the candidates have attended

the proper courses before they are taken on examination. The candidate is not required to attend farther courses where he shews this: and I cannot see why the London Veterinary College should require more, unless they have some benefits to confer. I think that the Edinburgh Veterinary College should receive the London graduates on the same terms.

I have the honour to be,

Your most obedient humble Servant,

ALEXANDER CARMICHAEL, V.S.

Graduate of the Edinburgh

Veterinary College.

1, Osnaburgh Place, New Road,  
16th July, 1840.

My dear Sir,—I have transmitted your letter to Mr. Mayer, the chairman of the committee. I dare say that you will hear from him.

I am not a member of the committee; but being personally referred to, I do beg peremptorily to disown the “narrow-mindedness,” and other implications, which your letter contains.

As for your threats, you will be sorry, ere this, that you committed them to paper. They serve no cause.

The English Veterinary School has as much right to pray for certain privileges as the Edinburgh, the Dublin, or the Metropolitan medical schools. They are perfectly independent of each other, except that the honour and advancement of the one is reflected on the rest.

So would it be with the veterinary schools. This, Sir, is the real state of the case when calmly and justly considered.

You complain of a tendency to “narrow-mindedness” towards the Edinburgh school in my “leader.” *Point out the passages*; or tell me of a single letter, or passage of a letter, connected with the onward progress of your school which has been excluded from THE VETERINARIAN.

I calmly but decidedly challenge you to the proof.

I have the honour to be, my dear Sir,

Your very obedient Servant,

W. YOUATT.

*Reply to Mr. A. Carmichael, by Mr. T. W. Mayer.*

Sir,—My esteemed friend, Mr. Youatt, has forwarded to me a letter of your's, addressed to him, dated the 13th of July. As a member of the deputation referred to in that communication, it is not out of place in me to offer for your consideration a few remarks.

In the first place, I regret to find that you should have proceeded to charge the deputation with "narrow-mindedness," injustice to the Edinburgh Veterinary School, a want of courtesy towards the graduates of that institution, and to insinuate that we designed by a side-wind certain exclusive privileges—until you had made yourself master of the subject of which you complain.

If you had done so, you would have been informed that *Scotland* has *always separate* acts of parliament framed for her government—separate orders in council, and proclamations for her regulation; and that her institutions never have, and never can be, included or mixed up in an English charter.

The graduates of the Royal Veterinary College request the governors of that Institution to petition for a charter—for what? In order that that College and its members may be made a legalized corporate body, and the regulations of that College fixed, determined, and placed under proper and efficient management; which charter, if obtained, would enable us to petition parliament for certain privileges. In all this there is nothing "exclusive"—there is nothing "narrow-minded"—there is no injustice done to any one.

If the Scottish graduates desire the same privileges as we do, they must petition for them; and, if we obtain our's, it will be given to them as a matter of course on their application; but they cannot by law be included in our charter, or in our acts of parliament.

I am able to state to you, that Professor Dick was informed of our intended application for a charter of incorporation, and, so far from being actuated by the same spirit you have manifested, *he was quite the contrary.*

It is not my intention to touch on the other points alluded to in your letter. Mr. Youatt has ably repelled them; and in the remarks he has made I perfectly coincide.

I trust that, after this explanation, you will exonerate the depu-



tation from the charges which you have brought against them, and that you will take the earliest opportunity of doing so.

I remain, Sir, your obedient servant,

THOMAS WALTON MAYER, V.S.

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We much regret that so little has been done during the last month in the cause of veterinary reform. Perhaps, it could scarcely have been expected that more would have been effected in this first skirmish, or, more properly, this first demonstration. Thus much, however, has been done. A great majority of the veterinary profession, and that majority hourly increasing, has demanded a system of instruction at the Veterinary College more consistent with the wants and wishes of the agriculturists, and more worthy of our art.

The earliest record of the institution contained a promise that the Veterinary College should form a school in which the anatomical structure of cattle and sheep, and the diseases to which they are subject, and the remedies proper to be employed, should be fully investigated, and regularly taught, in order that a greater number of enlightened practitioners should be dispersed over the kingdom. This was the early promise. It would be superfluous to inquire into the causes of this improvement not having even commenced until it seemed to be necessary to crush the labours and the professional existence of one who was intruding on this neglected ground, for that attempt proved altogether inefficient and abortive. We are now, however, arrived at a new epoch; and are anxiously inquiring whether and when the original noble purpose of the founders of the College is likely to be accomplished.

The agriculturist will sternly demand the same, and greater attention to the horse. Do the physiology and the pathology of cattle stand a fair chance of being attended to? Nearly half a century has passed, and the once Assistant Professor,—who for forty years discharged the duties of the stable and of the yard with unwearied zeal—who was always to be found when a subscriber wanted him, and on that account was become a favourite among

them—is beginning to receive the substantial reward of his labours. He is Professor of the College.

No one finds fault with this. He had worked hard for the situation, in despite of the occasional sneers and ill-treatment of his superior, and he is now reaping the reward of his assiduity. There are few who will deny that, as a practical man, and, barring a few strange peculiarities of opinion, he has great value. The question is with regard to the other promised branches of veterinary study ; and we ask, does this all-important point meet with the consideration due ? By whom is the student, for the first time, prepared for the pursuit of cattle-practice ? Who is the talented man who is to unfold all the hidden mysteries of cattle disease and its treatment ?

It is a gentleman who, until the last ten years, never made the slightest pretension to such knowledge—who has never had an opportunity since of acquiring a thousandth part of the requisite knowledge—whose time is already fully, and more than fully, occupied—*It is Professor Sewell !*

We recall not one word of that which we have said of his plain practical knowledge of the maladies and treatment of the horse ; but we are speaking of that of which he could have no knowledge that deserves the name. By some strange fatuity,—we will not at present use a harsher word—he dreams that he can accomplish every thing, and he is Professor of both departments. How long does he think that the profession will submit to degradation so outrageous ? What a glorious opportunity is he neglecting of establishing himself in the good opinion of his brethren and the agricultural world. But we refrain at present. Let others speak.

All that we require, all that the agricultural world requires, is included in the appointment of a competent teacher of cattle pathology. It involves the honour of our profession, and the best interests and wishes of the farmer. There is to the College the choice of honour or disgrace—of continued and prosperous existence, or of injury beyond the power of redemption.

## R E V I E W.

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Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

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A TREATISE ON THE STRUCTURE, FUNCTIONS, AND DISEASES OF THE FOOT AND LEG OF THE HORSE. By W. C. SPOONER, M.R.V.C.

LONG connected with, as an early and favorite pupil, and long and sincerely esteeming the author of this work, the best course that we can adopt in reviewing this publication is to let him speak for himself. "It has been my principal object," says he in his preface, "to make the present work interesting and useful to the veterinary student and practitioner; but it has been also my practice to render it attractive to the medical practitioner, the comparative anatomist, the sportsman, and the amateur. With these views, I have endeavoured to make the anatomical portion of the work clear and correct—the physiological division clear and comprehensive—and the pathological part consistent with the best principles of medicine and surgery."

In order that the reader may judge in what manner he has fulfilled his task, we copy a portion of his observations "On the Physiology of the Leg and Foot."

"Next to the human hand, no part of the animal system can better display the evidence of design in the construction of animated bodies, than the foot of the horse. In no other part or animal can we find strength and elasticity so well combined. In the deer, it is true, we may witness more of the latter quality, and in the elephant more of the former; but the one is incapable of bearing burdens, the other of travelling with speed. In the camel, indeed, we may find these qualities admirably combined; but they can only be brought into requisition in the arid plain or sandy deserts of which this animal is a native, and to which his services are necessarily confined. The hardness of our roads, and the sharpness of our flints, would soon destroy the soft cushion of this animal's foot; and, beautiful as its construction may be, it is incapable of being protected with iron. It is the horse, and the horse alone, that can carry his rider with the speed of the wind over every variety of soil; surmounting each obstacle, whether brook, gate, or wall, that may oppose his course, with the agility of the antelope, and supporting his burden at the same time with the firmness and security of the elephant.

"To a person altogether ignorant of anatomy, it is a matter of astonishment to behold the apparently slight structure of the legs of a well-bred horse, and yet to witness his varied and extraordinary

performances. The parts seem to him altogether inadequate to perform their tasks: but if, to gratify his curiosity, he turns his attention more minutely to the construction of these parts, he will find, on the one hand, the greatest possible strength condensed in the smallest compass, and, on the other, a machine furnished with an immense variety of springs most admirably constructed and ingeniously arranged.

“The curious inquirer is disposed to ask, as he proceeds to examine this structure and to compare it with man and other animals, How is it that there are no muscles or flesh below the knee, when he finds so many in the human hand or foot, as well as in the legs of the feline and canine races? We must reply to this natural question, that, from the length of the leg of a horse, and the distance from the body to the ground, if the muscles had been placed below the knee, the weight of these parts would have been so great as to have obstructed very considerably the animal's movements, on the same principle that a pound weight at the end of the long arm of a steel-yard would balance many pounds on the short arm. In like manner, the muscles, in which, of course, the moving power resides, are disposed above the knee, and effect their purpose through the medium of the tendons or sinews, which act as so many ropes in readily communicating motion to the foot. On the same principle we find, in the construction of the bones of the leg, the greatest condensation of strength, from their being arranged in the forms of cylinders, that being the strongest form; and where there is the greatest danger of fractures occurring (the middle of the bones), there we find most weight and solidity: but towards their extremities a greater size is afforded for the articulation of joints and the attachment of muscles. With this increased size, however, we have a diminished weight and solidity of structure. This allusion to the bones of the leg naturally brings us to consider, in the first place, the uses of those parts nearest the knee. The large metacarpal or cannon bone receives the greater portion of the animal's weight, and transmits it to the bones below. The two smaller metacarpal bones receive some portion of the weight, and from their elastic connexion with the shank bone are supposed to act as springs in diminishing concussion.

“Let us inquire as to their capability of sustaining weight and diminishing concussion. We find that the inner splint bones articulate with a small bone of the knee—the trapezoid; but the unciform, being longer than the pisiform, presses partly on the outer splint bone, and partly on the cannon; while the articulating surfaces of both bones are somewhat higher than that of the cannon, which exposes them still more to pressure. We take it, that even the circumstance of the flat articulating surface of the cannon bone

being tipped with cartilage must materially diminish concussion; but that the smallest metacarpal bones, from their elastic connexion with the cannon, must still more contribute in taking off the jar. When, however, we see so many horses whose metacarpal bones are united together by ossific matter performing all their paces so admirably, and with such safety, we must not assign too high an office to the splint bones, or consider their elastic connexion with the cannon as indispensably necessary for the performance of the functions of the leg. Young horses, of course, possess greater freedom and elasticity in their action than older ones, and to this elasticity the splint bones, no doubt, greatly contribute.

“There is, perhaps, no individual part of the body of the horse more interesting, or more important to the horseman, than the fetlock joint, and none, certainly, which demands or engages more attentively the minute examination of the practised eye. It is, indeed, the good or bad formation of this part which makes the difference, and frequently the only difference, between one animal worth a hundred pounds and another worth only twenty,—its faulty structure condemning the latter to the purposes of common harness work, and its proper conformation enabling the former to carry a heavy weight over a stiff country with safety and pleasure.

“Important, however, as this joint is to the rider, it is one of the most difficult for the amateur to examine when purchasing of an ordinary dealer; the animal is kept so constantly in fear of the lash, that, however knuckling he may be on his joints, the excitement of fear prevents his exhibiting his weak points. The best way to examine the fetlocks properly is to approach the animal quietly in the stable, and whilst apparently looking at his eyes or into his mouth, to cast our own organs of vision down to his fetlock joints, when, if he totters and shakes, however good his other qualities may be, he is not an animal of great value, being in all probability unsafe to ride, and likely to fail in these joints when hardly worked. It matters very little whether the horse was, as the dealer generally says he was, foaled so, because the fault is by no means less from being natural. Horses with this upright fetlock may not be disposed to trip, or hit their toe oftener than many others; but, should they do so, they are probably at once thrown off their balance, and come down with great force. Connected with this too upright and tottering fetlock, we often see the flexor tendons badly developed, and bound in at the knee.

“*The Fetlock Joint* should form an angle of about forty-five degrees; a greater obliquity disposes the part to weakness—a less obliquity to unsafeness. The latter throws the weight too much on the bones, the former on the ligaments and sinews. Of the two faults, however, the upright fetlock is the most frequent, and I should say

the worst; and when we see it we may prophecy, with some degree of certainty, that the legs will not last out the constitution. A good fetlock, to be deserving of the name, must have the flexor tendons strong and well developed, the suspensory ligaments corresponding, and presenting to the eye a flat leg, with three convexities formed by the bone, the ligament, and the tendons.

“The joints, too, should be large in proportion to the other parts; for, by thus having a large articulating surface, concussion is considerably diminished.

“Every one knows that the fore legs should not be placed too much under the body, for, when this is the case, we have generally a bad conformation of the whole extremity, beginning with low and upright shoulders, and ending with knuckling knees and upright fetlocks and pasterns, exhibiting altogether a disposition to fall forwards or come down. It is, however, sometimes the case, that good legs and strong well-shaped fetlocks co-exist with low and upright shoulders; and, when this is the case, the good qualities in a great degree compensate for the bad, for the two faults do not invariably accompany each other; but it is their united evil that is chiefly to be deprecated. For hunting, riding on the road, or for harness, the fore extremities cannot be too good; but as the tendency of this angular formation and high withers is to bestow high action, we often find that horses are not so fleet in their gallop as others whose fore extremities are more faulty, but who, from going nearer the ground, have their stride greatly extended. It is this circumstance, I imagine, that has led to the fact (for the fact it undoubtedly is), that the fore extremities are altogether disregarded in the breeding of thorough-bred horses; and thus we find that three-fourths of them have bad fore legs and weak fetlocks, and, consequently, break down, either in the first or second year of their appearing on the turf. I freely acknowledge that the performances of a thorough-bred stallion are his chief recommendation; but I should, at the same time, suggest that more attention should be paid to the state and structure of his fore legs, for, although this might not influence the speed, it will greatly affect the power in his progeny of sustaining severe training, or lasting long on the turf.

“Where, we may ask, are the winners of the Derbys and St. Legers of the last seven years? After blazing away like meteors through the sporting world, like meteors, too, they have sunk into comparative obscurity. Nearly all of them are broken down and lame; and, I would venture to assert, from disease existing within a few inches of the fetlock joint.

“It would be an interesting circumstance, as affecting the comparative qualities of stallions, if, in addition to their own perform-



ances and that of their progeny, it were ascertained how many years the latter endured before they were taken, or rather compelled to be taken, out of training.

“*The Tendons*.—We have before observed, that there are no muscles situated below the knee; if there were, the leg, instead of being light and active, would be heavy and unwieldy as that of an elephant. A pound of substance at the fetlock would require more power to move it than four pounds placed above the knee.

“Accordingly, we find that the muscles, both those which extend and those which flex the limb, are placed above the knee, and communicate motion to the foot by means of the long flexor and extensor tendons. This being the case, it must be evident that the most onerous duty, viz., that of raising the leg, is performed by the flexors, and accordingly we find that they are more than three times the size of the extensors. There seems, however, to be a greater disproportion between the tendons than between their corresponding muscles, which we must explain by observing, that the flexors, beside their principal use in progression, also contribute greatly to the support of the leg. The animal, in a measure, stands upon his flexor tendons, which is shewn by dividing them, when the fetlock joints immediately become more oblique. To effect this function both sinews are expanded at the fetlock, and the perforans also at the back of the os coronæ, and again still more at the navicular joint.

“We have before observed, that the perforatus forms a sheath for the perforans, at and below the fetlock joint, thus affording a beautiful mechanical contrivance, for a sheath could not be dispensed with, and yet no material could be spared for the purpose, lightness being so great an object. Accordingly, the difficulty is at once removed by the smaller tendon forming a sheath for the larger, by which, without any increase of bulk, the tendons are enabled to act jointly or severally as may be required.

“In the operation which we shall afterwards speak of—the division of the flexor tendons—the act of healing unites both tendons together by the intermediate substance that grows between them; the effect of which is, that the two sinews can afterwards only act together. The perforans can no longer slide through the perforatus, but the action of the latter so limits that of the former, that the horse can no longer flex the coffin bone on the os coronæ. The flexor perforans, after emerging from its sheath, expands considerably, and enters a joint capsule, which occupies the whole of the back part of the os coronæ, and in which the tendon and the bone are closely adapted to each other, the former resting on the latter, and this reposing on the soft elastic heels, which yield in every direction, thus forming one of the most elastic springs in the whole body. After

leaving this capsule, it enters the navicular joint capsule, where the tendon still more expands, and intimately corresponds with the navicular bone, over which it glides like a pulley. Thus we find that the flexor perforans is the medium of support of a good portion of the animal's weight, first at the fetlocks, then at the small pastern, and again behind the navicular bone, where it reposes partly on the inferior cartilages, and partly on the cushion of the frog.

“For these several purposes, the flexor tendons are endowed with immense strength, far superior in this respect to any cordage which our navies can produce; and Sir C. Bell has shewn that the fibres are interlaced in a manner the most compact and tenacious. In the dead animal, it has frequently been known to support four thousand pounds.

“*The Extensor Tendons* of the foot are considerably weaker than the flexors, having only to extend the limb, and not having to support any weight; but at the same time their office is highly important, and on the good or bad performance of it the safety of the horse will greatly depend. We find some horses, though possessing good legs, yet continually hitting their toes. This arises either from weakness or faulty action of the extensor muscles; and thus a horse very small in the front of the fore arm is seldom very safe. It is common to see horses worked very young with tottering knees; this is often, in a great measure, owing to the weakness of the extensor muscles and tendons.

“*The Suspensory Ligaments.*—The flexor tendons are greatly assisted in their action by the suspensory ligament, which, as we have before observed, rises just below the knee, passes down between the small splint bones, bifurcates, and is implanted into the sessamoid bones.

“This ligament differs from most others, and from the tendons, in possessing elasticity, and that to a great extent: when the horse is in action, the large metacarpal bone rests partly on the sessamoid bones, which being hung, as it were, by the suspensory ligament, puts it on the stretch, and thus a beautiful spring is afforded. Their action is well displayed in thorough-bred horses, whose fetlocks almost touch the ground at every step.

“No sooner is the weight taken from the limb than this ligament recovers its former state, and thus, preceding the flexor tendons in their action, catch the limb, as it were, before they have time to act, by which means it materially assists in flexing the leg, thus affording a beautiful example of the superior assistance rendered by elasticity which never tires, to muscular exertion, so liable to weariness and exhaustion.

“But the action of the suspensory ligament is not entirely confined to the fetlock joint, for the sessamoid bones are connected by

ligaments to the os coronæ, on which the large pastern bone in part rests ; and thus, as Mr. Percivall shews, the elasticity of the suspensory ligament is communicated to another joint, which by the common observer would have been regarded as beyond its influence.

“The suspensory ligament thus affords to the fetlock a beautiful spring, and at the same time a firm and effectual protection to the joint. If we divide the flexor sinews, the animal will be able to stand without difficulty ; but, if we likewise cut through the suspensory ligament, the fetlock joint immediately comes to the ground ; thus shewing that the principal use of the ligament is to support weight.

“We find that in oxen the ligament is more than double the size of that of the horse, whilst the sinews are often smaller ; but with an increased size we have a great decrease in elasticity. From this fact of comparative anatomy, we are disposed to conclude that the chief use of the suspensory ligament is to support the fetlock ; an office as a spring which though highly important, is yet to be regarded as secondary. In the action of the limb, we find that a considerable portion of the superincumbent weight rests upon the sessamoid bones, which, in consequence, recede and descend, or rather move backwards, like a door on its hinges, thus putting the ligament on the stretch : but, in order that they should not be strained too much, a limit is put to their action by the flexor tendons, which brace the sessamoid bones, and support the joint. Thus we see how important it is that the ligament should possess elasticity, and that the tendons should not. If the former were not elastic, we should lose an important spring ; and if the latter were so, they could no longer stay the action of the suspensory ligament. The tendons would also, by an elastic structure, be unfitted for the purpose of communicating motion to the muscles ; for to do so, it would be necessary to put them on the stretch, before the latter could communicate the requisite motion to the foot. A similar effect would, indeed, be produced, as if we were to drive with India-rubber traces, in which a certain loss of power must be exhausted in overcoming the elasticity of the traces, before the vehicle could be put in motion.

“*The Pastern Joint* contributes towards the elasticity of the leg in proportion to its obliquity ; this inclination taking off the weight from the bones, and throwing it upon the elastic parts behind. The large pastern bone, we have seen, rests in a great measure on a ligament, which, though not elastic itself, can act as such, from its connexion with the sessamoid bones and the suspensory ligament—thus affording a considerable spring. The small pastern bone rests, throughout its whole posterior surface, on the flexor perforans tendon, and the latter, at this part, is embedded in, and supported by, the soft cushions of the heels, which recede at every step ; thus affording one of the most elastic springs in the whole body, though

one which seems to have been lost sight of by lecturers and writers on the foot. If any one doubts the action or importance of the spring, he has only to procure a fresh leg and cut it off at the pastern joint, when he will perceive that the tendon, as high as the coronal bone, is supported by the soft elastic substance, which is embraced, and as it were contained, within the lateral cartilages that rise on each side as high as the upper part of the os coronæ. If now he presses on this bone in the same direction that pressure is usually received, he will find that the bone, sinew, and cushion, immediately recede, slightly pressing upon the lateral cartilages; and the moment the pressure is removed the parts instantaneously regain their former position."

This work will form a most valuable addition to the library of the veterinary surgeon.

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ILLUSTRATIONS OF THE BREEDS OF THE DOMESTIC ANIMALS OF THE BRITISH ISLANDS: Part III. By DAVID LOW, *Esq.*, *Professor of Agriculture in the University of Edinburgh.*

THE third part of this beautiful series of engravings is devoted to THE HOG, and full justice is done to them in their wild and their domesticated state. They all of them feed on plants, but especially on roots, which their strong and flexible trunk enables them to grub up from the earth. They devour animal substances, but they do not seek to capture other animals by pursuit. They are voracious, and bold in their own defence, but they have nothing of the thirst for blood which distinguishes the carnivorous tribes.

The hog exists in a wild state in almost every country of the world, but in each country he is distinguished by some peculiarity of form or habit. Mr. Shiels has given portraits of a pair that was brought from Portugal. They differ but little in appearance and character from those in the Zoological Gardens, except that their colours are brighter, and their general form more imposing.

From the earliest times they have been subject to domestication, and have furnished a considerable portion of the food of man. By the Egyptians, however, and by the Israelites, the use of their flesh has from the remotest period been regarded as an abomination. This has been explained, by some ancient writers, as a lesson to abstain from the sensuality and grossness of which this animal was typical. Others have stated that this abstinence was almost a necessary precaution in order to avoid a peculiar species of leprosy. It is far, however, from being certain that this is the right interpretation. It is safer to regard it as a custom of whose ultimate purposes we are ignorant, but which was then connected with the

Egyptian and Jewish ritual. The Mahometans, in every part of the world, likewise abstain from the flesh of these animals. It is a custom perfectly unexplained, for the flesh of the hog is as nutritive and as wholesome as that of any other animal, and is not more unsuited to the warmer countries than any other species of animal food : on the contrary, it is the best and wholesomest food, for it is taken with perfect impunity ; and they who abstain from this food in warmer countries, are notoriously more subject to leprosy than others who indulge in it.

The Romans indulged in their love of hogs'-flesh to a most disgraceful extent. The animal was drowned in wine, or killed by repletion with honeyed wine. He was then roasted whole, and stuffed with animals of all kinds, as thrushes, larks, nightingales, oysters, &c. He was finally placed on the table swimming in the richest wines and gravies.

The hog in a state of domestication has spread over almost every part of the world ; but he was carried to America by the earliest voyagers, and in the same way obtained a habitation in New Holland. This universal diffusion seems due to his remarkable fecundity in a domestic state, his easy maintenance, and his adaptation to almost every situation. It is pleasing to contemplate the vast power of increase which this animal possesses. A pair of them in the twelfth generation would produce a number as great as Europe is capable of maintaining. It is pleasing to compare this with the power of increase with that of another of the pachydermata. Were not the reproductive powers of the elephant as strangely limited, this vast creature would soon overrun the whole earth. The female brings forth only once in several years, and only one at a birth. In a state of slavery they scarcely propagate at all. There seems to be an instinct which keeps them within the bounds which would be safe to other creatures and to themselves.

Mr. Low has closely studied the habits of the domestic hog. Although reduced to the degradation of slavery, he is not destitute of sagacity, nor unsusceptible of attachment. He suffers himself to be caressed, and recognizes his protectors, and even has been taught to point at game with all the steadiness of the best trained pointer.

The hog is an animal affording a great share of the means of subsistence to the inhabitants of different countries. The quantity of food of this kind consumed in our country is exceedingly great. Many of the animals being reared at home for domestic use, the number brought to market, large as it is, does not give us an adequate idea of the quantity of pork produced and consumed. It is almost the only animal food that the peasants of many parts of the

country ever touch; and, happily, the animal can be reared on a small scale as well as a large, by the peasant in his cabin as well as by the opulent farmer. His food, too, is what other animals reject, and which would be wasted were it not consumed by him. The first plate of this animal given by Mr. Low is the wild boar and sow now in the possession of the Earl of Leicester.

To this succeeds a specimen of the Siamese breed, not peculiar to Siam, but spread over a vast extent of country situated in this part of Asia. They are of small size, with a cylindrical body, the back somewhat hollow, and the belly training near the ground, from the shortness of the limbs. The ears are short, small, and somewhat erect. They are less hardy and prolific than the native races of Europe; but they arrive very soon at maturity: they fatten on a small quantity of food, and their flesh is white and delicate.

This breed has been introduced into England, but when pure they are too delicate and sensible of cold to be of much economical value. The breed, therefore, is rarely maintained in its state of purity, but has been mixed with varieties of the native races, which it has seldom failed to improve, although it has somewhat lessened their size and their fecundity.

The next plate is a curiosity. It is an English sow, a variety that is rapidly growing extinct, and not often to be found, except in remote districts or in the hands of old farmers unwilling to change their mode of husbandry.

Last of all comes a pig of the Berkshire breed, one of the most generally spread and improved breeds of England. They are of a large size, a reddish-brown colour, and generally crossed to a greater or less degree with the Chinese. This plate, however, represents the old Berkshire.

GENTLEMEN WHO HAVE PASSED THEIR EXAMINATION AT THE  
ROYAL VETERINARY COLLEGE.

*July 22, 1840.*

Mr. W. Simmonds, London.

Mr. J. W. Smith, Sunderland.

Mr. J. A. Sawyer, Staindrop.

Mr. J. Cooper, Litchfield.



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MR. W. C. SPOONER'S REPLY TO MR. KARKEEK  
ON THE IMMORTALITY OF ANIMALS.

My dear Sir,—IT is not my present intention to write a very lengthy reply to your letter addressed to me in last month's VETERINARIAN; for while I agree with you, that animal metaphysics is not an improper subject for our periodical, yet I think we are scarcely warranted, in justice to more practical matters, in occupying very much space with our theories, however interesting they may be to ourselves. It was with these feelings, whether right or wrong, that I condensed, as much as possible, my two last letters on the subject; and might, therefore, have appeared to have neglected some matters of importance, and to have imperfectly treated of others. However, in your letter you address to me some queries, to answer which affords me a sufficient cause for writing the present reply. I am quite sure that neither you nor myself have any other objects in view but the elicitation of truth; and I am quite ready to concede to you—what I am quite sure you will not deny to me—that we argue for truth and not for victory. The subject of metaphysics abounds with so many ramifications and sinuosities that, unless we carefully avoid those paths not immediately essential to our subject, there is much danger of losing our way, or, at any rate, misleading our readers. This was my reason for refraining from making any observations respecting the materiality of the mind. And even now, although I have read the arguments of divines and others, as to whether the soul and the mind are the same, or distinct from each other, I must confess that neither side have proved convincing, but that I am almost as much in the dark as ever. I am, however, inclined to consider that they are distinct; because this is most accordant with the theory, that both man and animals have minds; but man alone possesses an immortal soul. There has been, ere now, much argument wasted on the subject, as to what precise time the soul enters the body,—whether at conception, or quickening, or at birth; but for my own part, on

this subject, as on many others, I am content to acknowledge my ignorance, and confess, in the language of scripture, that "we see through a glass darkly."

In the early part of your letter you deny that I have proved my first proposition, "That the possession of reason did not prove immortality." You have, however, adduced no argument in opposition to it. You say, that I only shew that the difference in the reasoning powers of man and brutes is in degree and not in kind. I admit this; but the very simile that you do me honour to notice is made use of to express, in the most striking manner, the immeasurable distance there is in these degrees—a distance rendered insurmountable by an impassable gulph. We see a striking resemblance, a great analogy, between the reason of man and animals, it is true; but we are scarcely justified in saying they belong to the same chain: for although we may trace links or degrees, both in man and in animals, yet there is between the one and the other a disunion of the chain which no effort of man or beast can ever link together. The simplest process of reason, i. e. the deduction of a single inference, having no relation to a future state of being, but confined to the present alone, is, I again assert, no proof of immortality.

I was fully aware, Sir, that in the position you assume, you did not stand alone; and the numerous authorities whom you quote still further assure me that you have much goodly company. But yet for all this, I must confess that I have little respect for the opinions of our old metaphysicians; for their doctrines, one after another, have nearly all been overthrown by the facts and arguments derived from a careful and dispassionate perusal of *Nature's own book*.

You come next to my second proposition, "That it is not reasonable to suppose that animals are immortal, on two grounds,—one, that there would be no use in their being so; and the other, that their faculties are not constituted for immortality."

To oppose the first of these reasons, you recount some of the wonders of nature; and, after instancing the prodigious number of the species of animals, birds, and insects, you ask me if I can tell you what use one-half of them are? This, Sir, I think I can do without much difficulty,—thanks to the lights afforded by natural science. An immense number of these creatures are decidedly useful to man, furnishing him with food, and raiment, and medicine—many of them are useful to each other—and a vast number act as Nature's scavengers, in devouring animal bodies that would else become pestilential, or consuming superfluous vegetation that would otherwise fill the atmosphere with the elements of disease. And if you were to tell me of thousands of thousands of

living beings that do not accomplish any of these purposes, I would reply, that at any rate they are sent into the world to fill up the expanse of nature; and after enjoying a transient existence, in which their moments of happiness infinitely preponderate over their moments of pain, they pass away, or, as Mr. Youatt beautifully expresses it, they fall asleep. Here we have an evidence of the bounty and wisdom of the Creator; and we can see both benevolence and design, without supposing that these countless beings possess immortal souls. You say that "you cannot believe that an intelligent Creator formed such a world, peopled it with inhabitants furnished with instincts necessary to their existence, simply for the purpose of devouring each other." No, my dear Sir, this is not the purpose of their existence, but only one of the means that conduces to the sum total of their happiness. The object of their existence is, as I have before remarked, to enjoy happiness, even when other purposes cannot be discovered; and then, before sickness, and decrepitude, and misery come on, they are (often with a mere momentary pang) cut off by a larger animal.

In asking the question, whether animals are to appear in the body or spirit? I did not mean, for a moment, whether the same atoms which compose them now will compose them hereafter, because this is quite unnecessary for our argument, seeing that at different periods of our life we ourselves are composed of different materials, though remaining essentially the same. I meant, are animals to appear with bodies similar to those they have at present? which I contended was impossible in this world. The scriptures tell us, if I mistake not, that man will be raised in the body; and if he alone is to be so raised, there will, probably, be sufficient materials in the globe to furnish bodily frames.

The best—in my opinion by far the best—argument in favour of the immortality of the human soul is derived from the pages of inspiration. Next to this, perhaps, is the circumstance of man's faculties being constituted for a future state of being; while those of animals have reference only to their present life, and are entirely absorbed by the objects of their passing existence.

How is a lion or a tiger to employ himself in a future state of being? Mr. Manthorp, in the last VETERINARIAN, has made some very judicious observations on the distinction between mankind and animals; and it is well worth your consideration to reflect that, among all the inhabitants of the earth, man is the only one capable of understanding the operations of nature, of which you so ably treat—the only one capable of improving himself and his fellow men—the only one that can avail himself of the advantages of science and knowledge.

Allow me to urge more forcibly on your attention the difficulties

in which you are placed by your position. One of the writers whom you quote alludes only to the larger animals; but you, if I mistake not, contend that every animal body possessing life is furnished with an immortal soul. It is certainly impossible to draw the line of demarcation between one animal and another. If we admit it in one case we must admit it in all; yes, not only in every fowl that flies through the atmosphere—every fish that swims in the ocean—every reptile that crawls on the earth—but in every one of those countless beings that require the aid of a powerful microscope, even to bring them within the ken of human vision. A little water becomes stagnant, and in consequence of this thousands of living beings become instinct with life. Does each of them possess an immortal soul? Our fruit trees become blighted in a single night, and are covered in the morning with myriads of living beings,—are they all the heirs of immortality? Your servant, at this period of the year, puts aside and forgets a little pastry; in a few days you examine it with a microscope, and you behold an immense number of beings who thus owe their existence to your servant's forgetfulness: do you ascribe immortality to all these beings? You turn out your horse on the moors in your neighbourhood, and he comes up with the mange; but you must not repine, for thousands of living beings (*immortal souls*) are thereby brought into existence. If you should ever reach Southampton, I trust you will find my house pretty free from their visitation; but if you should take up your abode in some houses in the town, you may, perchance, be disturbed in the night by the presence of some little insects whose very cognomen is offensive to ears polite. You well know that the peculiar character of these insects is to increase, if permitted, to an incredible extent. Would you have me believe that they are endowed with immortality? Are *bugs* to be our companions in Paradise? You perceive, Sir, into what difficulties you are led by your position.

Towards the latter part of your letter you take us back into remote ages, and you tell us of the wonders unfolded by geology. As a lover of the science, I experienced both pleasure and satisfaction from the perusal of your excellent remarks, although they do not assist your argument in the slightest degree. Geology tells us that animals existed, in countless forms, ages and ages before the first man was fashioned by the hands of his Creator; but this science likewise teaches us that at this remote period the globe was unfitted for man's existence. These animals enjoyed life, and then passed away, and the earth all the time was gradually progressing for man's abode: and if we refer to natural science, we find that the same improving process is still going on, and the jungle and prairie are gradually becoming the fertile plain. As man

multiplies and advances, the denizens of the forest recede and diminish; they enjoy the occupation only until man is enabled to enter into possession—they are, indeed, but as tenants at will; while to man, and to man alone, is granted the long lease of earth's inheritance.

But, my dear Sir, I must forbear, for I have already broken my intention of not writing a long letter. I beg, however, to submit the foregoing remarks to your candid consideration, not without the hope that, when you reconsider the matter, and reflect on the difficulties of your position, you may, without the sacrifice of one atom of your independence of mind, or the slightest disparagement to the talent you have displayed on the subject, be induced to believe that the ground which I have ventured to occupy is the more reasonable of the two.

I am, my dear Sir, very truly your's,  
W. C. SPOONER.

## ACUTE INFLAMMATION OF THE LUNGS IN SHEEP.

*By Mr. J. GUTTERIDGE, V.S.. Ross.*

*Jan. 21st, 1840.*—I WAS requested to see a very valuable two-year old tup, of the Leicester and Cotswold breed, the property of J. Powell, Esq., of Fanley Court. The sheep had been taken up and put into the barn previous to my arrival. I found him standing leaning against the wall, his pulse hard and quick—refusing his food—having ceased to ruminate—heaving of the flanks—most painful cough—discharge of foetid matter from the nose—clouded eye—an insatiable thirst—grinding of the teeth, and constipation of the bowels.

I immediately bled him freely from the neck, and gave a brisk purge. I also administered injections of thin gruel every two hours, giving also a small quantity by the mouth.

*22d.*—The cough not so violent, but the medicine has not acted. The respiration is more disturbed—the mouth hot, and a total disgust of food. We determined to abstract more blood; but before we could take two ounces he suddenly fell. Two hours afterwards I gave him more salts, with a little powdered digitalis in some gruel. In three hours after this I found him much relieved—the pulse not so quick—respiration not so much disturbed, and the bowels acted on. I ordered gruel every three hours, and injections as before.

*23d.*—Better, but no appetite—not so much unwillingness to

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move—has laid down in the night, and this morning for some time. Treatment as before.

24th.—The medicine has taken the desired effect—the pulse is more regular—he moves about more—very little discharge from the nose—rumination has returned—he lies down very composedly—the eye not at all clouded. Medicine as before.

25th.—Very much better—feeds—ruminates—lies down—walks about, but very weak. I ordered small doses of gentian and ginger, in chamomile tea, every morning and evening.

I did not hear of him for three weeks after this, when I was informed that he had perfectly recovered, and that Mr. Powell would not sell him for a hundred pounds. I saw him a few weeks ago, in perfect health and in most beautiful condition.

CASE II.—This was a tup of the same breed, and belonging to the same gentleman.

June 11th.—I was sent for to attend to a tup as quickly as possible; for the shepherd informed me that he was as bad, if not worse than the one which I had attended in the winter. On my arrival, I found the man was not wrong in his opinion; for of all the sheep I ever witnessed labouring under inflammatory disease, this was in the most distressing state. The countenance was expressive of great suffering—an oppressed pulse—great and most offensive discharge from the nose—violent cough—cessation of rumination—great heaving of the flanks—a staggering walk—respiration much disturbed.

I bled most freely, and gave a brisk purge, with injections, gruel, &c. Three hours afterwards I found his breathing much worse. I opened the vein, and abstracted three ounces more blood, and gave half an ounce of salts with powdered digitalis, in warm gruel. I also inserted setons in the chest, and left him for the night.

In the morning I found him a little improved, but still in a most dangerous state. The medicine had acted very slightly. I gave half an ounce of salts with the sedative. Continue the injections and gruel for three days.

14th.—I was informed that the tup was better, but his breathing continued very short. On my entering the barn, I saw him attempt to lie down, but he started up again. He then suddenly rested himself on his knees, then sprung up once more, with his feet as wide apart as possible: there he stood heaving and panting as if he had been driven for a long distance.

On examination, I found that he had purged a little—the pulse was still very quick—the mouth very hot—a nauseous discharge from the nose—a clouded eye—the greatest unwillingness to move—the setons discharging well. I gave more salts, with the digi-



talis, &c., and left him, ordering the same medicine to be given morning and evening.

17th.—I found him better, but still with difficulty of breathing, and a short and staggering walk; stopping and looking round at his sides, as if to tell us the seat of disease. I kept the discharge of the setons up by a very strong stimulating ointment, and continued the aperient and sedative medicine morning and evening, giving green meat in small quantities three times a day.

I saw the tup a fortnight afterwards: he fed as well as the other sheep, but did not get into condition. He was rather losing ground. It was now evident that there was a chronic disorganization in the lungs, which left no chance of recovery. He was allowed the most nutritive food that could be got for him, with common salt one ounce daily, and four ounces of lime-water—the salt being given in the morning, and the lime-water in the evening. In this way he remained until last week, when, having occasion to go to Fanley, I was informed they had killed him—he carrying a fair quantity of good meat, and there being no chance of his ever getting well. The respiration had still continued at some times sadly disturbed. I inquired respecting the state of the lungs, &c. They told me that these organs were in a most diseased state—full of tubercles, and great adhesion of the left lung to the pleura. The liver was very soft, and much enlarged. The kidneys, and the whole of the intestinal canal, were perfectly healthy.

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### ON SHEEP ROT.

*By Mr. W. R. STEVENS, Newmarket.*

Sir,—I READ with much pleasure your excellent correspondent Mr. W. C. Spooner's replies to Mr. Stewart's veterinary questions of last month, and I very much approve of this mode of eliciting information. I am very glad to have it in my power to answer the last of Mr. Spooner's questions, respecting the use of sulphate of magnesia in sheep practice.

The sheep has always been a great favourite with me, and I have invariably embraced every opportunity that has offered to study the habits and diseases of that most useful and neglected animal. I have occasionally met with some very interesting cases, although I cannot as often boast of rendering any material service.

As to the Epsom salts, although I usually give the Glauber's, I have found no difference in their operation. The first time I made use of the former to any number of sheep was in the spring of this year, to seventy poor sheep feeding on turnips. The greater part

of them were very lame, so much so as to prevent their feeding, from ulceration round the coronet and between the tottles, and which I considered to be a disease analogous to the epizootic that has been so prevalent among cattle. I had all the detached horn cut away to prevent the dirt from lodging; and dressed the feet with an application composed of two parts of tar, one of spirit of turpentine, one of muriatic acid, and four of finely powdered sulphate of copper. The mode of preparing this is to put the tar into an earthen vessel, add the turpentine, slowly stirring the mixture all the time, then pouring in the acid, and, lastly, the sulphate of copper. This dressing must be repeated daily as long as the disease exists.

I also administered Epsom salts  $\zeta i$ , and powdered aniseed  $\vartheta i$ , mixed in a gill of water. This I considered a small dose, but the sheep were very weak. The treatment, however, had the desired effect, although it acted but on few as a purgative. The sheep after a week were all recovered, and throve very rapidly.

Since that time I have had the lame of several flocks under my care, and have invariably met with the same success by using the sulphate of soda.

I have no doubt this disease is communicated from one sheep to another, by a sound animal walking in the track of a diseased one; or when foaled, from the lame ones being continually down, the discharge is left on the ground. My advice, therefore, is to draw all the lame sheep, and then commence the treatment prescribed; preparing the medicine, and if not giving personal attendance, sending a given measure to be administered to each. Of course, large fresh sheep will require a corresponding dose.

Permit me to add two not altogether unimportant cases on other diseases of this animal.

CASE I, was a fifteen months' ram, of the pure Down breed, preparing for the late Agricultural Show at Cambridge. I met the shepherd on his road to ask my assistance. He informed me that he had a sheep with a stoppage in the water,—that the present case was the fifteenth animal that had laboured under apparently the same disease, and all of whom had either died or been destroyed.

I found the animal down, and on his getting up observed a great anxiety of countenance, and a peculiarly sudden curvature of the spinal column; after which he passed a drop or two of urine. These symptoms had been observed continually for six hours, whenever he stood up: his respiration was also hurried.

On casting him and drawing out the penis, I found a small calculus forced a short distance into the appendix vermiformis, by the pressure of the urine from behind. I cut down on and removed the calculus, when the animal immediately voided it more freely

than he was accustomed to do (as it flowed through the incision which I had made). I next administered (in the course of twenty-four hours) five ounces of sodæ sulphas and a pint of castor oil—the animal weighed about 125 lb—by which means his bowels were freely acted upon. In a week he went back to his pen perfectly recovered in health, and afterwards did quite as well as the others. On turning him up, however, on the following week, I found that the appendix had rotted off, incapacitating the animal as a ram. Indeed, this vermiform process appears to be of so very delicate a texture that it will scarcely bear touching.

CASE II.—This was of a similar character. It occurred to a fellow-sheep, also fifteen months old, but a much finer animal. I found the symptoms exactly the same, and the obstruction in much the same situation. The shepherd had removed the stone before I arrived; but, much to his own disappointment, the urine flowed but a drop at a time, and these drops very slowly after each other. The same remedial means were had recourse to, but without success, for the animal became gradually worse, and it was thought advisable to kill him.

*Post-mortem examination.*—The whole extent of the urethral canal was in a state of excessive inflammation, and the lining membrane so much thickened as to prevent the passing of the urine; the bladder was much distended; and it is very probable, if the animal had been suffered to live, that the disease would have terminated in rupture of that organ. The bladder was also nearly covered internally with patches of vivid inflammation, but no earthy matter was observed. On slitting the ureters, two or three small calculi were found in each, not much larger than a pin's point. I am sorry to say that I had no opportunity of examining the kidneys.

I am of opinion that if this last case had been subjected to earlier treatment the life of the animal might have been saved. I should have observed, that in every case that has occurred, concretions were found adhering to the hairs round the prepuce, like small beads, of the same character as the calculi taken from the urethra.

On analyzing the stone and concretions, they were found to consist of phosphate of lime.

Sheep at grass do not appear to be subject to this complaint. Would not sorrel, or some acid, given them with their food, counteract the direful effects of the forcing system? or would it not be wise for sheep-masters to give a dose of physic, previous to their sheep being put on high keep? A friend of mine gave half a score sodæ sulph. 1 lb, et sulphur ℥iv, between them with good effect.

[We regard these as exceedingly valuable papers, and cordially thank Messrs. Gutteridge and Stevens for them. We rejoice that one and another of our veterinary surgeons is shewing the agriculturist what important service he can render in the medical treatment of this hitherto neglected animal. It will be for the agriculturist to patronize such men, and to assist in the noble effort now making to render the present, or some other school, an institution in which the diseases of every domesticated animal, and the remedies of those diseases, shall be thoroughly investigated.—Y.]

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## A CASE OF DISEASE OF THE LUNGS AND LIVER IN A CALF.

*By* JOHN TOMBS, *Esq.*, *V.S.*, *Pershore.*

A THOROUGH-BRED short-horned bull-calf, seven months old, had been ill six weeks or two months. He belonged to a celebrated agriculturist in this neighbourhood. I saw him the first time on October the 2d, 1839. His pulse was 60—he sucked but little—ate nothing—was very much tucked up—breathed quick and short, and was continually husking. When he was sucking he coughed almost to suffocation—had a continual discharge from the nostrils—the fæces extremely soft, and of a light brown colour. He had a scrofulous tumour on each jaw, exceedingly hard.

I considered it a hopeless case, as the disease had been existing during a considerable time; and, also, the emaciated appearance of the calf, and the deep husking, indicating a firmly seated disease of the bronchial tubes and the lungs, and, the whity-brown fæces, a fearful affection of the liver. He wished me, however, to try what I could do with the case.

For a few days I exhibited digitalis and febrifuge medicine, with no beneficial effect. For three weeks afterwards I tried iodine, with gentian and ginger, but with the like result; and then, as the disease was rapidly progressing, I succeeded in prevailing on the owner to have him destroyed.

The following were the appearances after death.—The lining membrane of the trachea and bronchial tubes were inflamed and covered with mucus. There were no worms in any of the air-passages or cells of the lungs, although many calves that had the hoose in the preceding autumn had prodigious quantities in the trachea and bronchial tubes. The anterior portions of the lungs were diseased, and darkened in colour, and, when cut into, were one mass of purulent matter. The posterior portion of the lungs were healthy, with

the exception of the bronchi. The liver had many abscesses in it, some of which contained a tea-cupfull of purulent matter.

I once knew a fat cow taken suddenly and alarmingly ill. At my recommendation she was immediately slaughtered. The beef was excellent; but the post-mortem examination brought to light, not congestion of the lungs, as one would have supposed from the sudden and urgent symptoms, but an old chronic disease of the liver. It was thrice its natural size, and was tuberculous. It is astonishing to think how the functions of life can be carried on for such a length of time while this important organ is so thoroughly diseased.

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## AN EXTRAORDINARY CASE OF SUPERFŒTATION IN A COW.

*By Mr. THOMAS MADDOCKS, of Ruyton.*

BEING an admirer of your excellent periodical, and the principles on which it is uniformly conducted, I beg leave to send an account of the following remarkable case, which, although perhaps not unprecedented, is one that has never before occurred in my practice, nor, I believe, in the experience of any one in my neighbourhood.

A two-year old heifer, the property of Mr. Humphreys, of Hanley Hall, produced a calf on Tuesday, February the 25th, 1840. She still continuing very ill, I was sent for on the following day. The presence of a second fœtus was readily detected, and that too was removed. The heifer continuing to exhibit evident symptoms of unusual illness, and her belly appearing very large, I once more examined her, and to my surprise found two more young ones ready to be produced; and, notwithstanding the extreme and protracted pains which she endured, and the debility necessarily consequent on such an effort of nature, she has not only recovered, but is in a likely way of adding to the valuable stock of her owner.

She had arrived at her full time; but the four calves, although they were of the natural size, and well formed, were dead previous to their extraction.

You may suppose that immediate and careful attention was paid to the cow. She was exceedingly weak, and there was an evident tendency to dropsy. This might be naturally anticipated. I therefore administered a few doses of Peruvian bark, with some aromatic spice, and combined with nitrate of potash. This treatment, pursued for a little while, restored her health and spirits, and in due time she was again parturient.

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[There are very few instances on record of fecundity like this. Two at least of the calves out of the four have generally been lost, and, oftentimes, the mother. The most extraordinary history of fecundity is contained in "Le Nouveau Bulletin des Sciences." "A cow, belonging to M. Gervais, a French agriculturist, produced nine calves at three successive births, viz. four at the first, all healthy females, in 1817; three at the second, of which two were females, in 1818; and two females in 1819. All these calves, except two of the first growth, were nursed by the mother, and, when grown up, produced only one calf as usual."—Y.]

## A CASE OF STRICTURE OF THE RECTUM IN A MARE.

*By Mr. JAMES ROGERSON, V.S. Kirkham.*

[Obtained through the kindness of Mr. Morton.]

As I was passing through Ballam on the 10th of December, 1838, I was stopped by a farmer, who wished me to look at a filly, two years old, that had the gripes. Her pulse 60, and strong—she was constantly looking at her flanks, first on her right side and then on her left, and was constantly pawing with her fore feet. Occasionally she would lie down and roll, but her favourite posture was on her back. The udder was a little swollen, and tender. On examining her per rectum, I found the fæces hard and dry.

I abstracted 12 lbs. of blood, and gave her a solution of aloes with oil, and ordered fomentations to be applied to the udder and belly.

12th.—She was much better, but the swelling of the udder had increased, and that gland was exceedingly tender. I gave her two drachms of aloes, and left two more to be given in solution if her bowels were not acted upon. I also embrocated the udder with some diluted camphorated oil.

13th.—Considerably better.

14th.—Symptoms the same as on the first day, except that the bowels were no longer confined. The swelling had enlarged. It extended to the navel, and was very hard. I abstracted 6 lbs. of blood from her, being all that she could bear, and applied a liquid blister to the udder.

15th.—She is better. The blister having but slightly acted, I repeated it, and gave her a solution of aloes with oil, her bowels being a little more confined than I could wish.

16th to Jan. 4th.—She continued in a satisfactory state during



this period of time ; but now, her coat beginning to stare, and her bowels being again confined, I sent her a few alterative aloetic balls, one to be given every third, fourth, and fifth day, as circumstances might indicate.

*Feb. 13th.*—The owner came and wanted more balls for her, stating that the others had done her so much good, that he wished to have a few more, especially as she did not look quite so well as she had done a few days before. These balls consisted of two drachms each of resin and aloes.

*March 13th.*—He came for more balls.

*16th.*—I was sent for in great haste, because she was down and could not get up. She was indeed down, but the pulse was good, and the respiration good. The bowels, however, were confined. The owner had given a ball on the 13th, but said that he did not dare to give another, for the first had almost purged her to death. I dipped a rug in boiling water, and applied it to her back, and poured on this more hot water, in proportion as the former quantity got cool. This was continued for the space of ten minutes, when she sprung on her feet, and appeared as if nothing was amiss, except a straining to dung.

On examining her per rectum, I found a stricture nearly twenty inches from the anus, through which I could scarcely pass three fingers. I stated this to the owner, and added, that I considered the case to be quite hopeless. His reply was, that I must try what I could do, and that, while she lived, no one knew what fortunate circumstance might occur.

I sent her a solution of aloes with oil, and some liquid blister, to be applied from the commencement of the loins to the tail. This was followed by the blister-ointment in the morning. An injection was thrown up night and morning, with aloes and oil occasionally.

The blistering, and purging, and injections, and occasional introduction of the hand were continued during nearly three weeks ; and, about the 15th of April, the filly was turned out to grass during the day.

*May 14th.*—I was castrating a colt for the same farmer, when she came galloping up to us. “Look, sir,” said one of the men ; “look at the dead mare. She is worth many a dead one yet.” I replied that “she looked well, but time would tell what would become of her ;” and, truly enough, I was sent for on the 12th of June.

Her symptoms were precisely the same as we had so often seen. We adopted the same treatment, and with the same effect, but only for a day or two, when she relapsed, and continued, sometimes better and sometimes worse, until the patience of the owner was exhausted, and on the 1st of July he sent, desiring that I would take her away.

I sent for two medical men who lived in the town, and with whom I was on friendly terms. One of them immediately stripped off his coat, and introduced his hand up the rectum. He soon found the stricture, at the distance from the anus which I had pointed out; and then, by using a great deal of force, he got his hand through it. He earnestly advised me to pursue the same treatment as before, with the addition of applying the iodine ointment to the stricture every morning, and opium and lard every night. I had her in a barn at a short distance from the house, and at the request of the surgeon sent my young man to abstract a little blood, in order to ascertain what effect the loss of blood might have in relaxing the stricture. He had not obtained more than a pint, when she dropped and died.

She was examined on the next morning, in the presence of both the medical men. Every part, with the exception of its being almost bloodless, was healthy, except the rectum, and that, throughout nearly its whole extent, was perfectly black. It was thickened from one end to the other, and for a foot before and behind the stricture the morbid thickness was more than an inch. The stricture itself was of a cartilaginous nature, with a deposit of bone at its base, and extending some way up its projecting edges.

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## A SINGULAR CASE OF CALCULUS IN A HORSE.

*By Mr. W. RICHARDSON, V.S., Peterborough.*

A BROWN cart horse, thirteen years of age, the property of Edward Compton, Esq., was attacked on the evening of Friday, June 5th, 1840, with symptoms of colic, and some antispasmodic medicine was sent home by the servant for him.

I received a message on the following morning from Mr. C., informing me that the horse was still in pain, and requesting me to ride over and see him. On my arrival, I found him down, but not apparently suffering very acutely. His pulse was not more than 45, and full; his ears and extremities were warm, and his breathing was not materially affected. He had been seen to stale, but no dung had been ejected since prior to his attack on the previous evening. I immediately examined him per rectum, and succeeded in withdrawing several pieces of hardened fæces, which were thickly coated with inspissated mucus. Some purgative medicine was administered, combined with ammon. subcarb. and zingib. A stimulating embrocation was applied to the abdomen. Enemata were ordered to be thrown up, and some linseed gruel to be offered him.

I saw him again in the evening. The medicine had not operated, though a rumbling noise was heard in his bowels. No fæces could be felt in the rectum—the pulse was not altered—the ears and extremities warm. Repeat the medicine, injection, and embrocation.

*June 7th.*—The medicine had not operated, although Mr. C. had given him a bottle of oil during the night. A slimy offensive mucus adhered to the tongue and fauces—there was constant turning up of the upper lip, and he was continually sitting upon his haunches. The ears and extremities were icy cold—immense distention of the abdomen—the pulse not perceptible—and every symptom of approaching death. I told Mr. Compton that I had not the slightest doubt that the animal was suffering from a calculus or calculi in the intestines; a view of the case which subsequently proved to be correct. He soon afterwards died; and, on examination after death, the following appearances presented themselves.

The intestines were immensely distended with air. The cæcum did not contain a single particle of food, either in a solid or liquid state. At the right curvature of the colon, not far from the ensiform cartilage, was a rupture, and upon the parietes of the abdomen was lying a calculus, presenting in shape the exact appearance of the intestine itself at the part where it was situated. The outer surface of it was beautifully smooth, and resembling marble. The peritoneal covering, both of the intestines and of the stomach, portrayed no symptoms of inflammation, and the inner surface was perfectly healthy.

The contents of the stomach, and throughout the whole course of the intestinal canal, until within a short distance of the place at which the colon terminates in the rectum, were perfectly fluid, shewing that the medicine which had been administered had performed its office; but here a stop was put to its farther progress, for another calculus was so firmly fixed in the intestine at this part, as to set at nought the power of medicine and the skill of man to remove it. It was firmly embedded in a quantity of silicious matter, some portions of which were adhering to its outer surface, and having the appearance of small crystals of sulphate of magnesia.

The fæces beyond this were hard and dry; but within about twelve or fourteen inches of the termination of the rectum was a patch of inflammation in the villous coat of the intestine, occasioned, I have no doubt, by a lump of hardened fæces which was deposited there. With the exception of this solitary stain, and where the calculi were deposited, the whole of the intestinal canal presented a healthy appearance.

The diaphragm was in a complete state of emphysema.

The liver was remarkably soft, and of a clayey hue.

The kidneys had entirely lost their structure, particularly the one situated on the left side, which merely required the slightest pressure of the finger to break down its texture in any direction. They were both filled with a thick purulent matter, resembling coagulated urine.

The pleura and the lungs shewed evident symptoms of chronic disease, and the heart was the largest I ever saw, weighing nearly eleven pounds. 'The walls of the right ventricle were not much thicker than a stout sheet of paper, while those of the left were, I should say, nearly four inches in thickness.

This horse had been in the possession of Mr. Compton for eight years, and, during *the whole of that period*, he had never had *a day's illness*, nor had he been rested a single hour on supposition of such being the case.

The largest calculus, and found where the intestine was ruptured, weighs 3 lbs. 13 oz., the smaller one 1 lb. 8 oz.

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## A CASE OF LARYNGITIS IN A HORSE.

*By Mr. T. G. WEBB, Whitechapel Road.*

*March 20th, 1840.*—I WAS requested to attend a brown gelding, eight years old, and fifteen hands high, that was at work in the Eclipse Bath and Bristol coach, the property of Mr. John Nelson, of the Bull Inn, Aldgate. The coachman complained that the horse had lately roared so badly that it was impossible to work him.

On examination I found him to have *Laryngitis*. His throat was very sore—the parotid gland on each side was as large as a goose's egg—his cough was sore, attended by a gurgling sound: when I pressed my hand upon his larynx he was in great pain. I bled him, and kept my finger on the pulse until it fluttered, and gave a ball composed of aloes ʒss, calomel nine grains, digitalis ʒss, ant. tart. ʒj, nit. pot. ʒss. I also blistered the throat, and left four balls containing the same ingredients, one to be given every day.

On the 25th, I ascertained that he was no better, and therefore ordered him to be brought home. He arrived home on the 29th, and on the 30th I passed one seton under the throat, and one on each side of the parotid gland. The setons were dressed with unguent. terebinth., and a ball given as before. The setons were dressed daily—the medicine was given as before, and he was ordered to have walking exercise.

*April 15th.*—Considerably better. Cough not so sore, and the glands appear to be getting less. Continue the same treatment.

On the 27th, I had him trotted. His roaring is much better, and the enlargement of the glands considerably diminished. Continue the same treatment.

*May 15th.*—Scarcely any roaring noise is to be heard, and his cough has left him. On the 27th, the setons were taken out, and he was sent to work. He works well, and the roaring has ceased.

## QUESTIONS ON VETERINARY ANATOMY AND PHYSIOLOGY.

*By Mr. J. CARLISLE, V.S., Wigton.*

1st, IN which of our animals do the visual organs remain longest impervious to the stimulus of light, and what is the physiological reason of this?

2d, In which of them does the membrana pupillaris appear the most conspicuous, and what is the physiological reason?

3d, In which do we find the largest spleen according to the bulk of the body, and what is the physiological explanation of this?

4th, In which do we find the largest thymus gland, and what is the physiological explanation?

5th, Have any of the nerves of the face of the horse been divided in tetanus, and with what effect?

6th, In what work on veterinary science do we find mention of a disease called *shivers*? what part of the animal is affected, and what are the symptoms, the cause, and the most rational treatment of the same?

## CONSULTATIONS.

No. XV.

RABIES.

August 18, 1840.

Sir,—PERMIT me to request your opinion and advice in the following case, that has puzzled me not a little. To begin at the beginning, as we say in Ireland; on the 26th of July, a large dog of the bull breed (that had been a house dog, and never used for the barbarous sports in which the generality of his kind are employed) appeared heavy and listless.

27th.—He is licking a spot on his paw which had the mark of an old bite on it, healed over.

28th.—Still biting and licking the paw—nose hot—lining mem-

brane of the mouth injected highly. I do not like him. Tie him up with a strong chain.

29th.—Still the same. Very costive. Give him two grains of calomel and two of tart. antim.

30th.—Medicine has operated—dog greatly better, and so much himself that I let him loose, but kept my eye on him.

31st.—Contrary to what had ever been observed in him before, he is salacious to the degree, and mounts on every dog he meets, without any regard to sex. Tie him up again.

Aug. 1st.—The effect of the medicine has been transient; he is heavy and feverish again—eats little—but is thirsty and drinks freely. Give him the same dose as before.

2d, and 3d.—He is better, and feeds pretty well.

4th.—I was standing outside where he is confined (he could not possibly see me), when I distinctly observed him trace the path of an imaginary object with his eye, and turn short at it.

5th.—He is nervous and irritable, and lies on his chest with his hind leg thrown across as if he were paralyzed, or had met with some injury of his spine.

6th.—His voice is changed, and so is his eye. The first is hoarse, gruff, and guttural, as if there were some obstruction in his larynx. He scrapes his bed back, and lies still on his chest. I am sure he is mad, but, being an old favourite, do not like to have him destroyed.

7th.—His voice is not so much changed to-day. He eats and drinks.

8th.—Better still. He no longer lies on his chest.

9th.—He is almost himself, but nervous and irritable—challenges fiercely any one coming into the house, but recognizes all his old friends.

10th.—Still the same, or somewhat better.

11th.—He barks eagerly at me in nearly his own tone of voice. As he had not been used to a chain, the confinement is very irksome to him, and his barking is, I think, asking to be let loose.

12th.—The dog is pining from being kept tied—he barks constantly, but is in other respects himself.

13th, 14th, and 15th.—The same—feeds well, and laps milk without the least effort.

16th.—The disease, whatever it be, appears to be spending itself: but the poor fellow is getting very thin.

17th.—He is much the same.

18th.—This day I will put down my pen, and go out and look at him. Well, Sir, I have just seen him. His nose is hot, and his mouth a little but not much higher coloured than natural;—he drank some broth freely, and was much pleased at being patted.

Now does rabies ever exhaust itself, and the dog recover? or



was this dog going mad at all? May I, with safety, let him go at large? Destroy him, while there is the slightest chance, I will not. May I request your early attention to this? Though living in a sporting neighbourhood, where a pack of fox-hounds is kept, there is not a veterinary surgeon within less than twenty-eight miles of me: and, in self-defence, or, more strictly speaking, in defence of my cattle, dogs, and hunters, I am obliged to turn my attention to veterinary matters. At the same time I should be always delighted to pay for the services of a well-taught veterinarian, if established in this neighbourhood.

I am, &c.

#### REPLY.

Sir,—In the course of a long practice on the diseases of the dog, I have seen three who exhibited the same characteristic symptoms of rabies which you describe, yet who weathered the storm. All of them I knew to have been bitten by rabid dogs, but by different ones, for I had opportunities of examining them both before and after death.

The dogs that were bitten were sent to me at different periods, under, I thought, the foolish hope of possible escape. They were favourites—as much as your's can be.

No medicine was given to them except a few doses of calomel and emetic tartar, when there was considerable costiveness.

In due time some of the early symptoms of rabies plainly developed themselves: and one followed on the other until there could not be the slightest doubt that the animals were rabid. Scarcely one symptom was wanting to complete the picture of a mad dog. In somewhat more than twenty-four hours, however, the paroxysm began to subside, and at the expiration of the third or fourth day all was calm. Several years passed between the occurrence of these strange scenes and my having the opportunity, of which you may suppose that I eagerly availed myself, to trace their after-history. Neither of them suffered any relapse.

If these cases, however, are calmly considered, there is nothing so wonderful about them. We have numerous instances in the biped and the quadruped, in which a sufficient quantity of animal or other poison has been imbibed, not merely to disarrange the system, but induce a train of morbid effects which are scarcely, for awhile, distinguishable from the ordinary ones of that poison. The eruption appears to be precisely that which we had expected; but after a certain period every symptom disappears, and a perfect calm succeeds. The smallest additional portion of the virus would have been fatal. In the present case there was enough sadly to disarrange but not absolutely to subvert the system.

*Your dog was rabid for awhile*; but the strength of his constitution was superior to the influence of the poison. He weathered the storm, and all danger has passed. In my opinion the symptoms will never again develop themselves, although I will not answer for the occurrence of some cerebral affections which might possibly alarm you if not fore-warned.

Therefore, not as a matter of necessity, but that I might not frighten any person to death, I would keep him confined for a month, if he becomes at all reconciled to his chain: but if the repugnance to confinement does not abate, I would release him from that which, to him, is useless punishment.

I would beg leave to state, that I do not hold myself answerable for any mischief which he might have done in his state of excitation.

I have the honour to be, &c.

W. YOUATT.

Aug. 24, 1840.

## THE HISTORY OF THE HORSE, AND HIS VARIOUS BREEDS.

*By Mr. G. BAKER, Reigate.*

[Continued from page 424.]

HAVING in my former paper given a brief outline of the history of the horse, I shall now enumerate the principal characteristics of the different breeds; although in speaking of periods bygone and countries remote I can pretend to no original remarks, but combine the testimony of received authorities.

It is not easy to say from what country the horse originally came. We have the testimony of the ancients that there were once wild horses in Europe; but of all the countries in the world where the horse runs wild, Arabia has ever produced the most beautiful breed, the most generous, swift, and persevering.

Their swiftness is incredible. The usual method of trying it is by hunting the ostrich, the only creature that can compete with the speed of the horse. If the horse in a trial of this kind shews great speed and is not readily tired, his price becomes proportionably great. There are some horses valued at 1000 ducats.

The Arabs are scrupulously exact in preserving the pedigree of their horses for several ages, in order to know their parentage, alliances, and genealogy; distinguishing each breed by different appellations, and dividing the whole into three classes. The first class, called noble, is the most pure, and without any mixture of other blood in the sires or dams. The second class is composed of horses, whose

racés, though ancient, have been mixed with plebeian blood on either the male or dam side. They are still deemed noble, but mis-allied. The last class comprehends common horses, which are sold at a low price, while the two former sorts are exceedingly dear; the lowest priced mares of the first class being worth 500 French crowns, and some fetching four, five, or even six thousand livres.

When a mare drops her foal, a certificate is drawn up and signed in the presence of an authority, and this voucher is given with the animal, like the deeds of an estate when it is sold. The Arab dwells in tents, and has no stable: but there is scarcely one, how poor soever he may be, that is not provided with a horse. He never beats it, but uses it gently and treats it as a friend. It is as much a part of his household as his wife and children, and is sheltered in the same tent. It is as familiar and domesticated as a pig in an Irish cabin, but, unlike "*Juliana the cratur*," it is never sacrificed to furnish the rint. The Arab dresses his horse most carefully twice a-day—he washes his legs, mane, and tail, which he never cuts, and but seldom combs, lest it should thin the hair. The mane of a foal is sometimes clipped, when about eighteen months old, in order to promote its strength.

He seldom feeds his horse during the day, but allows it to drink once or twice. The parching heat of their sandy soil may account for this peculiar treatment. At sunset they hang a bag at the horse's head, in which is a certain quantity of clean barley. He is turned out to pasture in March, at which period the mares are given to the stallion. When the spring is over they take them from pasture, and they have neither grass nor hay during the rest of the year. Barley is their staple food, with, now and then, a little straw.

If we consult the ancients on the nature and qualities of the horses in different countries, we learn that the Grecian horses, particularly those of Thessaly, made excellent chargers. Those of Achaia were the largest that were known. The most beautiful came from Egypt, and were bred there in large numbers. The horses of Ethiopia were not in esteem, from the heat of the country. Arabia furnished beautiful and swift horses. Those of Italy, and especially of Apulia, were good. In Sicily, Cappadocia, Syria, Armenia, Media, and Persia, there were excellent horses, equally esteemed for speed and vigour. Those of Sardinia and Corsica, though small, were spirited and courageous; those of Spain, like the Parthian horses, were adapted for war. In Wallachia and Transylvania there were horses with bushy tails and manes hanging to the ground, nevertheless swift and active. The Danish horses were good leapers. Those of Scandinavia, though small, were well shaped and possessed of great agility. The Flan-

ders breed was strong. The horses in Gaul were good for carrying burthens. The German breeds were so bad, so diminutive and ill-shaped, that no use could be made of them. The Swiss and Hungarian horses were good; and, lastly, those of India diminutive and feeble.

Next to the Arabian was formerly accounted the Barb. The original horses of Barbary and Morocco were considerably smaller than the Arabian breed, but, when the tide of Mahometan conquest, under the dominion of the Caliphs, swept over the western portion of northern Africa, the breed was improved by a mixture of Arabian blood. The faith of Mahomet springing up in Arabia, and being propagated by a wild sword law, improved, by a dispersion of its valuable breed of horses, the native stock in every country which fell beneath the ensign of the crescent. In Turkey there are to be found horses of almost all races, besides the national breed,—Arabians, Tartars, and Hungarians; of both of the latter I will speak with more detail as I pursue my subject.

Next to the Barb was generally accounted the Spanish Jennet. These horses, like the Barb, were small, but swift. The head large, the mane thick, ears long, but well pointed, the eyes like fire, the legs beautiful, the pastern long as in the Barb, but the hoof rather too high; nevertheless they moved with grace, ease, and spirit. The colour was usually black or dark bay.

The grave and stately Spaniards, who valued a horse in proportion to his susceptibility of the manœuvres of the riding-house, were accustomed to style those which excelled in such exercises *hagedores*, or *doers*. We in this country emphatically distinguish by the appellation of *goers* those horses particularly endowed with our favourite qualification, speed. The long occupation of Grenada by the Moors, and its final conquest by Ferdinand and Isabella, probably gave rise to the superiority of the Spanish breed in the neighbouring province of Andalusia, where so high a value was set upon external grace, that its natives have become proverbial for its possession.

“She cannot step as doth an Arab Barb,  
Or Andalusian girl from mass returning.”

Notwithstanding its parade, the Spanish jennet possesses courage, grace, and spirit, in a higher degree than the Barb.

I cannot avoid thinking that the swift breed of South American horses, bred to the chase in the neighbourhood of Quito, must be of this kindred, imported by Pizarro or his successors, when they conquered Peru. The Mexicans were as much astonished by the sight of the Spanish soldiers on horseback as by the prediction of the coming eclipse by Cortez, which affords presumptive evidence

that they were unaccustomed to the sight of horses, or unacquainted with their management.

The Italian horses are much deteriorated by the neglect of the breed. They have, in general, large heads and thick necks. They are large, spirited, and move well, excel in show and parade, and have a peculiar aptitude to prance.

The Danish horses are excellent in size and strong in make; but they have a thick neck, heavy shoulders, long and hollow back, and a narrow croup. They are principally employed for draught, are of all colours, and often very whimsically marked.

Much improvement has recently taken place in the German horses, which were originally from Arabian and Barbary stocks.

The Dutch breed is good for draught, for which purpose it is used and exported. The best are from Friesland. The Flemish horses are much inferior; they generally have large heads, flat feet, and thickened legs.

The French horses are of various kinds. The best come from Limosin, and have a strong resemblance to the barb. They are slow in coming to perfection, must be carefully treated when young, and not backed until seven or eight years old. Normandy furnishes the next best, which, although not so good for the chase, are better for war. Heaviness about the shoulders is a general characteristic defect in French horses, and is in direct opposition to the prevailing form of the barb.

The Egyptians have always maintained the breed of excellent horses of extraordinary size. The horses of Guinea and the Gold Coast are diminutive, but tractable. This small size occurs also in those of Corea, India, and China. The conquest of the latter country was made by the horses of the Tartars—a race worthy to compete with the Arabian in patience, endurance, swiftness, and boldness. They are invaluable in war. In point of symmetry they do not compare with the Arab. The head is fine and small, but the neck is long and stiff, the hoof too narrow, but maintaining the reputation for hardness derived from their Parthian ancestors. The Tartar breed was no doubt improved by the admixture of the Persian, Arabian, and Barb, in the several conquests of Genghis Khan and Tamerlane. The Tartar lives with his horse upon the same familiar terms as the Arab. It is the playfellow of his children, who mount and manage it at a very early age. There are very fine horses in Circassia and the Ukraine. It was

“ A Tartar of the Ukraine breed,  
Who looked as though the speed of thought  
Were in his limbs; but he *was wild*—  
Wild as the wild deer, and untaught,  
With spur and bridle undefiled.”

“ That horse sped like a meteor through the sky, and bore the guilty Mazeppa to the country of the free upon the pinions of the wind.”

There yet remains one breed that, by judicious mixture of foreign stocks, and superior skill in management, combines the best qualifications of them all,—the size and swiftness of the Arab, the spirit and grace of the Barb, and the endurance of the Tartar. I allude to our own English race-horse ; and if any man doubt this assertion, let him visit Epsom Downs on the days of the Derby and the Oaks, and he must be prejudiced, indeed, if he continues to deny the pre-eminence of our national breed.

We must all have heard with regret of the dispersion and exportation of the Royal Stud a few years ago. Such an establishment had been considered by our sovereigns, since its first foundation, as a necessary accompaniment to the government : even the puritan Cromwell thought it an indispensable appendage to his dignity.

The government of Austria has several large establishments for the breeding of horses, each forming a kind of military colony, from which, in due time, the cavalry will be furnished. The largest of these is Mezo Hegyes, in the plain of Hungary, established by Joseph II. In war time, the stallions, mares, and foals, in the establishment amount to 16,000, and it has supplied 8,000 horses yearly to the cavalry. At present the number in the establishment is only 3500.

The next in importance is Babolna, near Komorn, which is particularly interesting, from the recent importation of Arabian stock. Babolna is a military colony—a perfect community within itself—established upon a farm of about 7000 acres, enclosing within its boundary all the requisites of a small distinct kingdom. In the centre stands enormous ranges of stables, with lodging for the major-commandant and his four subalterns; contiguous to them are the dwellings, within which reside, with their wives and children, 30 non-commissioned officers, and about 300 privates. There is a chapel and chaplain, a hospital, and due supply of medical attendants; veterinary surgeons and compounders of medicine for both man and beast; a hotel, a billiard-room, and a library. The establishment was created solely for the breeding of horses, upon which the men are merely attendants. You have here the noble animal in all its stages, from the foal just dropped to the grandsire of the flock ; and the order in which they are arranged is beautiful: one stable, for example, is given up exclusively for the stallions, and a nobler collection of horses one need not wish to behold. Other stables hold the mares, one being set apart for such as have just produced their foals; a second for those whose time is drawing



near ; a third to a class still more remote from parturition, and the remainder for such as are fit for work ; for be it observed, those noble horses do the light work of the farm, which, with the regular exercise they have, keeps them in health. Each animal, whether mare or stallion, has its loose box, and not a stall. Like the lodgings of their seniors, the barracks of the youthful heroes are marked off to suit their respective occupant, whether the colts of three years old, or the colts of two. The yearling colts and those somewhat younger have each their separate lodgings.

There is this difference in the stables which are allotted to the old and young,—that whereas sires and dams have each distinct boxes, the colts of each age are all turned loose together. Mr. Gleig remarks, that there can scarcely be imagined a more beautiful sight than a group of two hundred yearlings, tame and gentle as spaniels, into the midst of which he followed the Major-commandant. Major Herbert is an old campaigner, who has seen much service, has fought among the Cossacks, and lived with the Arabs of the desert, from whom he selected, with great perseverance and difficulty, the choicest of his Arabian stock. He is as admirably cut out for the office the emperor has conferred upon him as if his single occupation through life had been to superintend a breeding stud or look after a farm. The hospitals for man and beast, the workshops, laboratories, furnaces, and smithies, and all other appliances connected with this establishment, are in the highest possible order.

The yearly expense of Babolna to the government is estimated at 400,000 florins, or £40,000. This is not disbursed florin by florin from the imperial treasury, for every year forty or fifty stallions are sold, as well as all mares not required for breeding, and *all of either sex that are blemished*. The work of the farm being performed within its limits materially lessens its expense.

In the continuation of my subject in a future paper I shall have occasion to speak of the experiment of breeding wholly from the Arabian stock, combined with the different system of feeding which is now practised by Major Herbert, of Babolna.

Hungary has ever been renowned for a race of horses, small, swift, and enduring. The passion for horse-breeding and training has always been a characteristic of its people. Tradition relates that, at the close of the ninth century, Swatopluk, the last of the Schlavack kings, sold the country to Arpad, the chief of the Magyars, and a white steed and his trappings were part of the payment.

“ For snow-white steed thou gav’st the land,  
For golden bit the grass,  
For the rich saddle Duna’s stream.”

The subsequent intercourse with Hungary in the wars of the succession with Naples, and collaterally with Spain, may have first introduced the passion for Spanish stock, so predominant a penchant of the ancient regime of Hungary as almost to be regarded as an emblem of their caste. The wars with Turkey may again have crossed the national breed. Matthias Corvinus, the scourge of the Moslem, was a reader of Vegetius.

The attention of the nobles, as well as of the government, has recently been much turned to the breeding of horses, both in Hungary and Transylvania. In the latter small territory alone are enumerated as many as sixty studs. A horse fair has recently been established at Klausenberg, at which cattle also are offered for sale.

The politics of a Hungarian nobleman are as easily marked by his turn out as a belle of queen Anne's reign by her patches. The Spanish breed still maintains its ascendancy among all who uphold things as they were. They recruit their stud from the old Spanish stock of Count Banffy, at Bomzida, and maintain the dignity of their aristocratic origin. The reformer, on the contrary, recruits his stock from the stud of Baron Wesselengi, at Tsibo, and endeavours to deduce the value of his principles of reform from the superiority of his horses. A liberal party returning from a county meeting hailed the young count as one of themselves by observing in the twilight the outline of his horse's dock.

Baron Wesselengi endeavoured to improve the national breed by a judicious admixture of English stock. He began with our entire English horse, named Cato, and found the cross with a Szekler mare produced an excellent hackney. His ordinary stock is about two hundred. He demands from £40 for half-bred Szeklers to £250 for thorough-bred entire horses.

There are more than twenty studs in Transylvania, with more or less mixture of English blood. English grooms are also much in request. In this country the expence of keeping a horse in condition averages £10 per annum. There are immense droves, amounting to many thousands, belonging to single proprietors, attended only by what are termed horse-shepherds on the Putzta or level plain of Hungary.

Horse races have been established at Pest, at which many a turn-out would not disgrace the four-in-hand club. Lord Derby's well-known hounds were purchased by Count Caroly, and many valuable horses have lately been exported.

I have dwelt thus fully upon Hungary, in consequence of the unparalleled magnificence of its government studs.

The French government are paying much attention to the improvement of their breed of horses. Royal establishments are

maintained at several places: horses of pure Arabian, English, and Spanish blood are purchased, and races established at many places with royal prizes. In some of the announcements, carriage races are enumerated among the sports. All this must have a beneficial effect; but they can never hope to compete with us, so long as posting is a government monopoly, and stage coaches are not allowed to pass each other on the road.

Having trespassed so much already on the space of your Journal, it is needless for me to enumerate the characteristics of our national breed, as they are so well known to all my professional brethren; but I will, in a future number, conclude my subject, by offering a few deductions from the preceding facts, and which must prove to all who feel an interest in this noble animal, the necessity,—now that foreign powers are alive to the importance of maintaining and improving their national breed,—the paramount necessity, in fact, that must stimulate our exertions to uphold the superiority hitherto so justly awarded to us.

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## ON ENTERITIS IN THE DOG.

*By* W. YOUATT.

ENTERITIS in the Dog is the title of an Essay discussed at a meeting of the Veterinary Medical Association, and recorded in the portion of our periodical of the present month devoted to a report of the proceedings of that Association. It may be readily imagined with what delight, although confined to a sick bed, I heard of the introduction of such a subject in the Theatre of the Royal Veterinary College. I looked back to the period when it was deemed an offence to the powers that were to consider the dog as a legitimate object of the veterinary surgeon's care. It was on this ground chiefly that the writer of the present article experienced a degree of insult and persecution which determined him to pursue a course of his own amidst the aspirants after veterinary fame; and to this portion of veterinary practice he still adheres with a degree of pertinacity which increases with years. He begs leave most cordially to thank the author of this Essay for the courage and ability which he has displayed; and he is confident that he will be forgiven if, in some points, he decidedly disagree with him, both in theory and practice. It is a new ground, and each one may, for some time yet to come, pursue his own path.

ENTERITIS.—I do not like the term. It implies a distinction which we are not yet, in every case, warranted to draw; or it confuses diseases which may exist altogether separately. Peritonitis

is still more objectionable, from the difficulty of ascertaining when the disease is primarily or chiefly or wholly an affection of the peritoneal membrane.

I will briefly sketch the various intestinal maladies, so far as I have been enabled to draw a line of distinction between them.

I am consulted with respect to a dog who is hiding himself in a cold, dark, corner, and especially if it is paved with stone. Every now and then he lifts his head and utters a howl, so much like that of a rabid dog that I can scarcely distinguish one from the other. He fixes his gaze intently upon me, with a peculiarity of expression which has also been mistaken for rabies. They, however, who have had the opportunity of seeing many of these cases, will readily perceive the difference. The conjunctiva is not so red, the pupil is not so dilated, and the gaze is that of a criminal or a sufferer anxiously imploring pity, and not menacing evil. I approach him; but he will not let me touch him until, after awhile, I have convinced him that I mean no harm—then I find a peculiar slowness attending each motion—his cries are still frequent and piteous—his belly is hot and tender—two cords, in many cases, run longitudinally from the chest to the pubis, and, on these he cannot bear pressure—he abhors all food, but his thirst for water, and particularly cold water, is extreme—he frequently looks round at his flanks, and the lingering gaze is terminated by a cry or groan. In the majority of cases there is considerable costiveness, but in others the bowels are freely opened from the beginning.

This is a description of a case of peritoneal inflammation, sometimes pure, but oftener involving the muscular coat of the intestines.

Its prevailing cause is exposure to cold, especially after fatigue, or the being compelled to lie on the wet stones or grass. Now and then it is the result of neglected rheumatism, especially in old and petted dogs.

The treatment is simple: bleeding until the pulse falters—a warm bath, and the belly gently rubbed while the dog is in the water, and well fomented afterwards—the drinking of warm broth or warm milk and water—a repetition of the bleeding, if little or unsatisfactory relief is obtained—the examination of the rectum with the finger, and the removal of any hardened fæces that may have accumulated there—the cautious use of enemata, neither too stimulating or too forcibly injected. Then—with regard to medicine? None at all, until the more urgent symptoms are abated; and then, calomel? the favourite and destructive medicine of the keeper and the huntsman? No, not a grain. We have too much and too dangerous irritation already. The case indicates an oleaginous and narcotic mixture. Castor oil, one of the mildest of our purgatives—syrup of buckthorn, assisting the purgative effect of the oil, and containing in its composition as much stimulating

power as is safe—and the syrup of white poppies, the most convenient anodyne to mingle with the other medicines, and which will generally be successful in allaying the irritation already existing, and preventing the development of more. Even this must not be given in too large quantities, and their effect must be assisted by a repetition of the enemata every fifth or sixth hour.

On examination after death the nature of the disease is sufficiently evident. The peritoneum, or portions of it, is highly injected with blood—the veins are turgid—the muscular membrane is corrugated and hardened, while, often, the mucous membrane displays not a trace of disease. In violent cases, however, the whole of the intestines exhibit evidence of inflammation and disease.

CHRONIC INFLAMMATION OF THE PERITONEAL MEMBRANE is a common disease in dogs. He loses his appetite and spirits—he gets a little, and sometimes not a little, cross—he becomes thin—his belly is tucked up, and, when we examine him, we find it contracted and hard, and those longitudinal columns of which I have already spoken are peculiarly hard, and almost unyielding—he now and then utters a half-suppressed whine, and he occasionally seeks to hide himself. In the greater number of cases, he, after a while, will recover; but he too often pines away and dies.

On examination after death the case is plain enough. There is inflammation of the peritoneal membrane, more indicated by undue congestion of the vessels than by the general blush of the membrane. The inflammation has now spread to the muscular coat, and the whole of the intestine is corrugated and thickened.

I regard this as chiefly a peritoneal affection, aggravated by combination with a rheumatic tendency,—that to which the dog is more disposed than any other domesticated animal.

This disease has its most frequent origin in cold—in the being too much fed on stimulating and acrid food,—and, probably, from other causes which have not yet been sufficiently developed.

Here, again, no drastic purgative is to be admitted. It would be adding fuel to fire with a vengeance. Not a grain of calomel if the life of the animal is valued. The same castor-oil mixture—the proportions, three, two, and one, with a drop or two of oil of peppermint. This will afford the most effectual remedy.

The dog is subject to fits of COLIC, principally to be traced to improper food, or a sudden change of food, or exposure to cold. This is particularly the case with puppies. There is no redness of the eye, no heat of the mouth, no quickened respiration, but the animal labours under fits of pain. He is not easy for a minute in a place. He gets into one corner and another, curling himself closely up; but he does not lie there more than a minute or two.

Another fit of pain comes on—he utters his peculiar yelp, and seeks some new place in which he possibly may find rest.

It is with great diffidence that I offer an opinion contrary to that of the father of canine pathology. Mr. Blaine states that “the treatment of this species of colic is seldom successful; but that which has seemed the most efficacious has been mercurial purgatives, as calomel, one grain; aloes, a scruple; and opium a quarter of a grain, until the bowels are open.” In my practice, however, neither so extensive nor so “successful” as his—for he was, indeed, master of his profession—I have seldom found much difficulty in relieving the patient suffering under this affection; and I gave no aloes, no calomel; but I certainly retained the opium in the oleaginous mixture to which I have so often referred. I should not so much object to the aloes, for they constitute the best—the only *purgative* for the dog; nor, to a dog that I was preparing for work, or that was suffering from worms, should I object to two or three grains of calomel, intimately mixed with the aloes. From the combined effect of the two much good would here be effected.

I admire the caution with which it is administered by Mr. Blaine in these cases of supposed colic—one grain for a young dog, two for a dog of some strength and size, and three for a Newfoundland dog. I could forgive this, and the repetition of it, if well guarded with opium; but I read with some degree of surprise—not to use a stronger term—the confession of one gentleman, that he had given as much as fifteen grains, combined with opium, and repeated the dose, and that he had even exhibited scruple doses. I would, with Mr. Sibbald, deprecate the use of such murderous quantities. I would offer my thanks to the President of the evening for entering his protest against such a mode of proceeding. In our treatment of the horse, we have got rid of the destructive urine balls, and drastic purgatives of the farrier. The poor cow is no longer drenched with half a dozen destructive stimulants. A most desirable change has been effected in the medical treatment of these animals. Let us not, with regard to the faithful dog, continue disgracefully to pursue the destructive course of the keeper or the huntsman. I have heard sportsmen boast of having given a drachm of calomel to a dog; and my language to them has uniformly been as stern and as decisive as the relation between us would permit. In the greater number of cases, when we have met again, they have thanked me for the schooling which I gave them, and have told me to what an almost incredible degree the number of deaths has diminished in their kennels.

If I regain a little more strength, I shall, ere long, take up this subject in the continuation of “the Farmers’ Series,” which has



been too long delayed; but I could not permit the present occasion to pass without imperfectly, but decidedly, protesting against the exhibition of these outrageous doses of calomel in any of the diseases of the dog.

If this species of inflammation is neglected, or these horribly drastic purgatives are administered, a peculiar contraction of the muscular membrane takes place, and one portion of the intestine is received within another—there is *INTROSUSCEPTION*. In most cases a portion of the anterior intestine is received into that which is posterior to it. Few of us have opened a dog that had been labouring under this peculiar affection without being struck with the collapsed state of the intestine in various parts, and at some of them much more than at others. Immediately posterior to this collapsed portion it is widened to a considerable extent. The peristaltic motion of the intestine goes on, and the consequence is that the constricted portion is received into that which is widened—the anterior portion is invaginated in the posterior—obstruction of the intestinal passage is the necessary consequence, and the animal dies, either from the general disturbance of the system which ensues, or the inflammation which is set up in the invaginated part.

I will say nothing of medical treatment in this case; for I do not know the symptoms of *introsusception*, or how it is to be distinguished from acute inflammation of the bowels. Acute inflammation will not long exist without producing it; and if its existence should be strongly suspected, the treatment would be the same as for inflammation.

A few words with regard to constipation and inflammation of the mucous membrane of the intestines, and this paper shall close.

The domesticated dog, from the nature of his food more than from any constitutional tendency, is liable to *CONSTIPATION*. This should never be neglected. If two or three days should pass without an evacuation, the case should be taken in hand, for inflammation that will not be readily subdued will otherwise be very soon established. And what should I use in order to accomplish my purpose? I frankly confess, the aloetic ball, with one or two grains of calomel. Beyond that, however, I should not dare to go; but if the constipation continued, I should have recourse to the castor-oil mixture. I should have previously examined and emptied the rectum, and had frequent recourse to the enema syringe, and I should continue both. It would be my object to evacuate the intestinal canal with as little increased action as possible.

There are two other species of inflammation of the bowels which must not be passed over without notice, *Diarrhœa* and *Dysentery*.

*DIARRHŒA* is the discharge of *fæces* more frequently than

usual—thinner than their natural consistence—but otherwise not materially altered in quality, and the mucous coat of the intestines being somewhat congested, if not inflamed. It is the consequence of over-feeding, or the use of improper food. Sometimes it is of very short continuance, and disappears without any ill consequence being left. The health being unaffected, and the character of the fæces no otherwise altered than by assuming a fluid character, it may not be bad practice to wait a day, or possibly two. It is desirable for the action of the intestine to be restored without the aid of art.

I should by no means give a physic ball, or a grain of calomel in simple diarrhœa. I should fear the establishment of that species of purging which is next to be described. The castor-oil mixture will afford the greatest hope of success.

Habitual diarrhœa is not an unfrequent disease in petted dogs. In some it is constitutional—in others it is the effect of neglected constipation. A state of chronic inflammation is induced, with which it is dangerous to meddle. It has become a part and portion of the dog, and if repressed in the intestines, it will appear under a more dangerous form in some other place.

DYSENTERY is a far more serious complaint. In most cases a considerable degree of inflammation of the mucous coat exists, and the mucus is separated from the membrane beneath, and discharged per anum. The mucus thus separated from the intestinal membrane assumes an acrid character. It not only produces inflammation of the membrane, dangerous and difficult to treat, but it excoriates the anus and neighbouring parts, and produces pain and tenesmus.

This disease has sometimes been fatally misunderstood. A great deal of irritation exists in the intestinal membrane generally, and in the lower part of the rectum particularly.

The fæces passing over this denuded surface, a considerable degree of pain is produced, and there is much straining, and a very small bit or portion of fæces is evacuated. Many a time and oft has this been seen by the careless observer, and he has taken it as an indication of costiveness, and some drastic purge has been administered, and the animal quickly sent to his long home. The old practitioner rarely makes a blunder of this kind; but many a tyro has compromised his reputation by the carelessness with which his examination was conducted.

No one that had ascertained the real nature of the disease would administer calomel in any form or combination; but the anodyne mixture as an enema, and also as administered by the mouth, would be the only medicine from which benefit could be expected.

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## THE VETERINARIAN, SEPTEMBER 1, 1840.

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Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

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WHAT was the result of the meeting of “the Medical Honorary Members of the College”—in plain English, “The Veterinary Examining Committee”—on Wednesday, the 22d of July, and at which “the subjects of the Memorial were to be laid before them for their advice,” we cannot tell; for, although the Members of the Deputation were promised that “a Committee of the Governors would be convened to determine thereon, and the result would be communicated to the Deputation,” no intelligence has yet been received by the chairman of that body. Perhaps they were wrong to expect that it would; for the Secretary of the College very coolly remarked, that “it was impossible for him, at this season of the year, to say when the meeting would take place.”

Well! we must wait with patience, or rather, perhaps, we do not altogether regret this delay, because it will enable the Deputation to look around them, and to ascertain, more accurately, the real wish and feeling of the profession; and to calculate the number and quality of the forces which they can bring into the field. So far as the Editor has opportunity for observation, the prospect becomes daily more and more satisfactory.

In the rapid increase of numbers—in the perfect union of sentiment—in the deep determination to render our profession more worthy of the noble purposes to which it ought to be devoted—we see the “*Auspicium melioris ævi*.” A light is bursting forth among us, which will kindle and spread until our profession assumes its true importance, and the agriculturist and the country rejoice in the benefits which it bestows.

There is one circumstance which reconciles us to the knowledge that the fate of our Memorial is not yet finally decided. It is to undergo the consideration of the Examining Committee, a body of men who have not yet forgotten their own early struggles for the proud pre-eminence in which they are placed—men devoted to

medical science—who feel the attraction and the importance of the study of comparative physiology and pathology, and who have a character to maintain amidst their brethren and before the scientific world. It is still for them to decide whether that can be taught which was never learned—whether the education to which they owe their high standing in the world could have been cheaply bought—and whether that profession can be worth pursuit, or can ever obtain the degree of consideration which alone would satisfy the honourable man, into which the lowest class of society may intrude without pecuniary inconvenience. There is some comfort yet, when our claims must be examined by such men, and when their decision must be known, and will be canvassed by their own brethren as well as by ours, in every part of the world.

Late in the month the Editor received a communication from Professor Dick. It was of a private nature, and there was not time for a reply to a request of the Editor, that he might be permitted to publish some parts of the letter. It bore, however, so much on some possible points of unnecessary misunderstanding between the Scottish and English school, that the Editor determined to publish some portions which it contained in the present VETERINARIAN. He has known the Professor too long, and their general views with regard to the profession have been too similar, for him to fear that there will be any misunderstanding or diminution of friendship between them, if he divulges some of the secrets of their correspondence.

“I have had,” says the Professor, “some correspondence regarding the charter, which a number of the members of the profession connected with the London College have applied to the Governors of that Institution to endeavour to obtain for them; and I perceive you have also been applied to on the subject. My pupils have inferred, from the account given in THE VETERINARIAN, of the interview between the governors and the memorialists, that the latter wish for an exclusive charter, and, therefore, complain that it would, if granted, prove injurious to them. I am, however, satisfied, that there is no reason to fear such a result, because I know, that, if a charter is granted, the rights of all parties will be preserved.”

He then states some difficulties which belong more to the committee than the public. That committee will be grateful for the

hints of the worthy Professor, and will be better prepared when employed in the actual drawing up of the memorial.

The Professor then proceeds :—

“I wish the memorialists success, to the extent of obtaining all they want, with the exception of interfering with the interests of the pupils of this college. This cannot be done, and it would have been better to have asked that the charter, if granted, should have extended to Scotland, and preserved all the rights of the graduates of the Edinburgh Veterinary College. That is quite a common procedure, both as regards charters and acts of parliament.

“With regard to the other points of complaint in the memorial, I may state that, previous to its appearance, I had applied to the committee of directors who superintend this college to make such alterations in the rules as seemed to be wished for by the profession; and it has been resolved, that all students, who have not had the advantages after-mentioned, must, as heretofore, attend two sessions before presenting themselves to be examined for a diploma. But if any gentleman, who may previously have obtained the degree of M.D., or a diploma as surgeon or apothecary, wish to obtain a diploma here as V.S., he will be allowed an examination after attending one session. In like manner, students who have previously served an apprenticeship of three years to a qualified V.S., and are twenty years of age, will be allowed an examination after an attendance of one session. Students who have attended one session at the London College, will also be allowed an examination after having attended another session at this. To those who already possess a veterinary diploma, but who may wish to obtain one from this college, the time of attendance before applying for it is not restricted.”

There never was for a moment the slightest wish to interfere with the interests of the Scotch pupils; and there is scarcely a man among us who does not wish every advantage that we can gain to be fully shared by the pupils of the northern school. I have now lying before me a letter from Mr. Mayer, the chairman of the delegation. It touches on many points relating to this and other subjects; but there is, bearing on the present circumstances, the following sentence.—He is speaking of the Scottish school: “There

is not a single privilege in which we do not wish them to participate equally with ourselves."

This will be a sufficient reply to Mr. Carmichael, and who will also see the propriety of dropping this subject. The Editor begs to assure him, and every Scottish student, that it will not be the fault of the Memorialists, if the bond of union between them, and their professional brethren elsewhere, is not more closely drawn, and the honour of veterinary science vindicated and established.

An advertisement of the commencement of the Autumnal Course of Lectures at the Edinburgh Veterinary College will be found on our cover. We earnestly recommend it to the consideration of the Governors of the English school.

## REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

CATTLE PATHOLOGY. *By R. B. GELLÉ, Professor at the Veterinary School at Toulouse.*

[Continued from page 442.]

ACUTE GASTRO-ENTERITIS is sometimes simple, possessed of little intensity, and, consisting of a certain degree of inflammation of the mucous membrane of the digestive canal, declaring itself by symptoms which cause little alarm, and readily disappear under the influence of a cooling regimen and medical treatment of a very simple kind. The following case is an instance of it.

CASE I.—M. Pauleau inserted this case in the *Medical Journal*, 1829, p. 367. A cow that refused her food presented the following *Symptoms*. The rumen was distended—the respiration somewhat difficult and plaintive—the lumbar region yielding to very slight pressure—the horns and the ears warm—the muzzle dry—the excrements hard and covered with mucus—the pulse hard and accelerated, and rumination suspended.

*Diagnosis*.—Slight gastro-enteritis.

*Treatment*.—Bleeding to seven pounds—mucilaginous and slightly nitrated drinks—emollient injections, and restricted diet.

On the following morning she began to eat her litter—her breathing was free—the enlargement of the paunch had disappeared—the rumination was natural, but there were small portions of hardened



dung in her fæces. The same medicine was continued—two injections administered—boiled potatoes were mixed with her corn, and a little good hay allowed.

On the third day she seemed to have quite recovered, and was turned into the meadow for a short period.

The next case was one of gastro-enteritis, somewhat more severe.

CASE II.—March the 8th, 1812, the weather being cold and dry, I was desired to see a young working ox in good condition, that had been taken ill on the preceding evening. He had neither eaten nor drunk for fifteen hours. Constipation had existed from the first appearance of the disease—the mouth was hot—the tongue red at its edges—and the mucous membranes slightly injected. The secretion of urine was natural, and the pulse slightly concentrated and accelerated. The respiration was quick, and the expiration plaintive, and accompanied by occasional grinding of the teeth. The muzzle was slightly moist—the horns and the ears cold—the skin dry—the lumbar region sensible to the slightest touch—and the countenance expressive of pain. Although the malady had progressed so rapidly since its commencement, I saw nothing to alarm me, and I encouraged the hope of a speedy cure. I considered that the cause of the disease was the too great fulness of the stomachs, from the dry regimen—hay and barley straw—on which he had been kept, besides which, the farmer said that he was naturally a very greedy beast.

*Diagnosis.*—Simple gastro-enteritis, a little intense.

*Prognosis.*—Favourable.

*Treatment.*—Two pounds of a decoction of peeled barley and linseed, rendered laxative by the addition of two oz. of cream of tartar, were given every second day. Emollient injections were likewise had recourse to, with dry frictions and warm clothing. The animal refused some gruel which was offered to it, and nothing else was allowed.

On the following day the swelling of the paunch had disappeared, and that viscus even felt a little soft. Some portions of hardened fæces had been brought away by the injections. Five doses of the same *tisane* were given during the day. Towards night the animal began to search about for food, and drank some warm gruel.

On the next day the animal was convalescent, and readily took its gruel, some mash, and some green cabbage-leaves. By degrees he returned to his usual food and work.

These two cases will suffice to characterize simple gastritis, a disease of frequent occurrence, seldom mortal, and for which bleed-

ing is rarely or never necessary. It, however, assumes a more intense form, as the following case will prove.

**CASE III.**—On the 28th of March, 1809, I was required to see a milch cow, five years old, in good condition, and that had been taken ill on the preceding night.

*Symptoms.*—Loss of appetite—cessation of rumination—obstinate constipation—hot mouth—paunch full and hard—belly hard and tender—the breathing agitated and accompanied by a plaintive sound—grinding of the teeth—frequent colicky pains, manifested by the anxious looks and trembling of the animal—the pulse small, concentrated, and accelerated—the mucous membranes red—the skin dry and adherent—the hair roughened—the horns and ears cold—and extreme sensibility of the dorsal portion of the spine.

*Cause.*—This was unknown: the air was cold and humid—the beast had been out of spirits, and had eaten very little during some days—the secretion of milk diminished by little and little, and, at length, was entirely suspended.

*Diagnosis.*—Acute gastro-enteritis.

*Prognosis.*—Doubtful.

*Treatment.*—A bleeding of 6℔ from the jugular, and a decoction of the roots of marsh-mallows, with nitre and honey; also emollient injections, which produced the discharge of a considerable quantity of excrement—part of it of nearly its natural consistence, and part of it hard, and bloody mucus mingling with the whole. The colicky pains were not abated at night; I therefore added two drachms of opium to the drink already ordered, and this was repeated during the night.

**27th.**—The animal was quieter and seemed to suffer less, but the belly was still hard and swelled. The decoction of barley and linseed was given, to which were to be added a handful of dried wild poppy-heads, every dose containing two ounces of Glauber's salts with honey. Emollient injections were continued, and gruel administered.

**29th.**—The patient was better, and she ruminated, but the belly was inactive, and the excrement hard. The owner thought that she was cured, and contented himself with giving some emollient injections, with mash, white water, and cabbage-leaves.

**May 5th.**—I had occasion to see her again. Her milk had only partially returned; her paunch was still hard, and the excrement small in quantity and covered with mucus. The appetite was capricious, and the rumination imperfect. I prescribed a repetition of the barley and linseed decoction, with two ounces of cream of tartar, twice every day. Emollient injections were also given; dry friction applied, and some exercise ordered. On the following

day she voided a considerable quantity of fæces, and on the 8th of May was quite well.

CASE IV.—On the 31st of January 1827, an ox, four years old, in good condition, and that had been ill two days, was brought to me. The appetite was gone—rumination had ceased—he was constipated—the urine was in its natural state—the mouth was hot—the tongue red, and the paunch hard and slightly enlarged—the pulse was concentrated, accelerated, and the artery distended—the respiration was frequent, and the breath hot: there were plaintive lowings, and grinding of the teeth—the muzzle was dry—the mucous membranes injected—the eyes filled with tears—the ears cold, the coat staring—great sensibility in the dorso-spinal region—and symptoms of occasional and intense colic.

This inflammation of the gastro-intestinal mucous membrane was caused by a too copious meal, rapidly and furtively taken, from a heap of cabbage-stalks and leaves. The serious character of the disease rendered my prognosis doubtful. Six pounds of blood were abstracted from the jugular, and two emollient injections administered. Drinks of the decoction of barley and linseed with gum Senegal were administered—emollient cataplasms were applied to the belly—friction was employed on the loins and sides—and the animal was well clothed.

*Feb. 2d.*—None of the symptoms were essentially changed, although the animal appeared to have slightly improved. A second bleeding of 5lbs. was effected, and the same medicine, injections, &c. continued.

*6th.*—Very little change. The same treatment continued, with the addition of Glauber's salts to the drinks.

*7th.*—The countenance of the patient had brightened, and the muzzle was covered with dew. The pulse, however, was hard and accelerated. Some liquid excrement, mingled with mucus, was discharged with the return of the injections, but the constipation remained. The animal still refused to eat, and the cessation of rumination and the hardness of the paunch continued. I abstracted 3lbs. of blood from the thoracic veins, and applied a large sinapism under the belly, in order to cause some metastasis of inflammation. My treatment, otherwise, continued the same.

*9th.*—The sinapism had produced a large and thick swelling, which I scarified, and about 4lbs. of blood escaped. The enlargement of the paunch had somewhat diminished, and the injections had brought away some excrement, soft, of the most noisome smell, and mixed with a considerable quantity of mucus. The patient had very much lost condition. The same treatment continued, except that the laxative drinks were alternated with drinks of warm milk, mixed with olive-oil.

13<sup>th</sup>.—I could not again see my patient until to-day. He was very weak and emaciated. The pulse, nevertheless, was full and strong. It had eaten a little good hay, drunk some gruel, and had ruminated during a few minutes. The excrement was small in quantity, but exceedingly noisome. It was also black, more fluid than natural, and containing a considerable quantity of mucus.

14<sup>th</sup>.—For the first time a copious evacuation, without the aid of medicine, took place, but it was black and foetid to the highest possible degree.

From this moment the patient began to improve, and gradually returned to his usual food, but it was not until the spring of the year that he regained his former health and condition\*.

Simple acute gastro-enteritis sometimes presents itself with certain *epiphénomènes*—symptoms which appear in the course of the disease, and which indicate the viscus which is principally affected. A case or two will illustrate this. If there is considerable inflammation of the abomasum, it will be indicated by vomiting to a greater or less degree.

On December 2, 1811, I saw a calf two years old that had frequently vomited during the last two days. It was in good condition, and had been fed in the stable on hay and straw. Occasionally, when the weather was fine, it was turned into the field. There was no apparent cause of the disease by which it became affected.

The first symptoms of illness were the refusal of food and drink, and the expression in the countenance of severe pain. On the first day the paunch was considerably enlarged, and vomiting took place. This phenomenon, always preceded by distention of the rumen, often occurred in the course of the night, and constipation prevailed from the very commencement: nevertheless, in spite of the disgust of food and the extreme anxiety of the animal, the patient ruminated for some short space of time in the intervals between the vomiting.

On the second day all the symptoms materially increased; and on the third, when I first saw the patient, the rumen was full and hard—the mouth hot and red—the tongue red at its borders and point. He obstinately refused all food and drink, and had ceased to ruminate. The constipation continued—the urine was small in quantity, and thick—the pulse quick and small, with distention of

\* We can nowhere find a better illustration of the manner in which the French practitioners, even such as Professor Gellé himself, play with their patients. An English veterinarian would have settled the business in half the time, although now and then, perhaps, he would have made more haste than good speed, and have committed unnecessary murder. Much may be said on both sides.—ED.

the artery—the respiration accelerated, and somewhat impeded by the enlargement of the paunch—the eyes red and fierce—the animal in a state of extreme agitation—the skin dry, adherent, and tender, and the hair roughened. A slight pressure on the loins would cause the animal to fall, or nearly so.

He vomited twice as I stood by him. Several pounds of a fluid glairy matter were ejected, of a sour foetid odour, mixed with particles of food—a part, grossly triturated, coming from the paunch, and another chymous portion proceeding from the abomasum.

*Diagnosis.*—Acute gastritis, with irritation of the abomasum and the œsophagean canal. The vomiting is favoured by the meteorization of the paunch, and which precedes that symptom or increases at its approach.

*Prognosis.*—Doubtful.

*Treatment.*—I spoke of bleeding, but the proprietor would not listen to it. A decoction of peeled barley, and the root of dog-grass was made, to which was added, at the close of the boiling, a large handful of the leaves of the orange-tree. A pint and a half of this was given every two hours, and, at night and morning, three drachms of sulphuric ether were added.

On the 3d, in the morning, he was evidently better; the inflation of the paunch had disappeared, and the vomiting had ceased. Towards the evening of the same day the animal ruminated a little,—he expressed an evident desire for food, and drank a little gruel; but as the paunch was yet full and hard, we continued the medicine, the injections, and the gruel three days longer, omitting the ether, and giving occasional mashes, and a little good hay. He thus continued until the 24th, when there was an abundant evacuation of black and foetid excrement, a portion of it hard, and the rest fluid, mixed with mucus, and from that time he began in good earnest to recover\*.

Lastly, gastro-enteritis is occasionally terminated by the formation of a tumour, and by other circumstances, sometimes of a remarkable character. The following will be a sufficient illustration.

I was sent for to examine an ox three years old, that was taken ill on the preceding evening.

*Symptoms.*—Sudden and fearful loss of strength. The eyes red and weeping—the pulse accelerated and concentrated—the respiration laborious and plaintive, with grinding of the teeth—the mouth hot and dry, and the pituitary membrane injected—the refusal of food—the suspension of rumination, and the paunch hard without

\* Here is another instance of the method of playing with their patients of which our continental neighbours are too frequently accused. A decided purgative, many a day before, would have settled the business at once.

being meteorized—the patient had discharged per anum some bloody mucus, and there was much emission of exceedingly foetid flatus. The urine was small in quantity and highly coloured—the muzzle dry—the surface of the body cold—the skin adherent, and the coat staring.

The prostration of strength appeared to me extreme in so young an animal, strong, in good condition, and that had been ill only fifteen hours. I attributed the disease to the bad quality of the water, and to a south-wind, and an unusually high degree of temperature, which had continued during several days.

*Prognosis.*—Doubtful.

*Treatment.*—The prostration of strength appeared to me to be the effect of some intense vital reaction; and, in order to prevent a state of greater disturbance and danger, I abstracted six pounds of blood from the jugular vein, and prescribed a decoction of peeled barley, with gum Senegal and nitre. To this were added two drachms of camphor, dissolved in two drachms of the acetate of ammonia, and given in each of the two first drinks. Emollient injections acidulated with vinegar were also administered, and likewise vapour baths, followed by dry frictions, the food being gruel only.

14th.—The animal discharged a great quantity of extremely foetid excrement, mixed with bloody mucus, after which he was evidently relieved. The medicines were continued, as were also the injections; and, the patient testifying a desire to eat, a little mash was allowed, with a few young carrots, and some gruel.

15th.—On the evening of this day, the owner brought his beast to me. He appeared to be cured of his former complaint, but a tumour had spontaneously and rapidly arisen. It was situated deeply in the cellular tissue which surrounds the lymphatic glands at the base of the neck, and in front of the scapulum. It was equal in size to a loaf of bread two pounds in weight, and great pain was expressed when it was touched. I ordered emollient fomentations.

16th.—I passed a seton through the dewlap, and continued the fomentation. In the evening a considerable tumour had arisen in the dewlap, which I deeply scarified. The tumour in the neck had diminished to half its original size. The tumour tending to resolution, I ordered it to be daily well rubbed with mercurial ointment, and it disappeared in less than ten days.

Inflammation of the mucous digestive membrane often takes on itself characters still more serious, and is complicated with a surcharge in those stomachs of aliments refractory to digestion. This occurs principally with regard to the rumen and the manyplus. I have already cited some cases, in which gastritis succeeded to



meteorization of the paunch; in the following ones, on the contrary, tympanitis of the rumen complicates itself with acute gastritis, for, inflammation in these organs suspending all the digestive phenomena, and particularly rumination, the aliments retained in the paunch ferment with increased activity, in proportion as the greater heat which then exists in this organ favours the development of chemical affinities, and the disengagement of the gases. It is a true indigestion which succeeds, and the surcharge of the stomachs depends as much on the suspension of rumination, and other phenomena of indigestion, as in the nature of the food, since, besides the fulness of the paunch, there exists, sometimes, another phenomenon, the hardening of the food contained in the manyplus, in consequence of the extension of the inflammation of the abomasum to all the digestive organs.

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HOOVE IN CATTLE—THE SPONTANEOUS CURE OF. *By R. B. GELLÉ, of Toulouse.*

OUR readers, we hope, will find both pleasure and profit from the perusal of this short extract. It is taken from portions of the lectures of the Professor which we were compelled to omit in some previous numbers.

“The *treatment* of hoove in cattle is effected, first, by the escape of the disengaged gases, either by the mouth or anus; secondly, by the neutralization of these gases by certain medicaments; and, thirdly, by the puncture or incision of the paunch, by means of which the gas and aliments are evacuated.

“Let us examine these different means, and the different indications which the varieties of meteorization present. When the extrication of gas is inconsiderable, the walking of the animal about will often effect a cure; but when the tympanitis is serious, other measures must be used. Liquid ammonia, or ether, may cause a sudden diminution in the bulk of the gas, or, in various cases, even of considerable intensity, nature has been found to effect a cure without the aid of art.

“Observation having proved that, in serious cases of hoove, the gas cannot naturally escape from the paunch in a sufficient quantity to effect a cure, it has been proposed to assist its escape by means of a flexible tube introduced into the œsophagus; but this proceeding is dangerous, especially in unskilful hands. Many medicaments possess the property of neutralizing the gas extricated from the aliments contained in the paunch. Chabert, considering that these elastic fluids were in a great measure composed of carbonic acid gas, recommended the use of certain alkalies, particularly lime-water, the potash of commerce, and more particularly liquid ammonia. The success which attended this mode

of practice gave it considerable reputation: it is at the present day the remedy most usually employed, in doses of an ounce and a half for the larger ruminants, and of two drachms for sheep, mixed in a pint of water for the first of these animals, and a glass for the second. Experience has proved to me its efficacy whenever the meteorization has been recent, and produced by green food, because in this case there has been no inflammation of the digestive organs. The effects of the medicine should be assisted by leading the animal about, and by clysters of warm water holding in solution some kitchen salt, or common soap. These will generally produce the evacuation of the excrement accumulated in the large intestines.

“But, whenever the state of the pulse, the redness of the tongue, and the heat of the mouth, have caused me to suspect the commencement of inflammation, I have always had recourse to sulphuric ether, because it very promptly condenses gases, and does not cause any dangerous irritation. The spirituous infusion of balm has a stimulating and diffusible property which produces a dilatation of the membranes of the paunch without too much exciting the nervous system; and it is second in action only to the ether. ‘This is one of those medicines which the veterinary surgeon should never be without,’ says M. Prevost: ‘I have the greatest confidence in ether. In effect, it often acts with an astonishing promptitude.’ Whatever may have been the circumstances which have given M. Prevost so favourable an opinion of ether, I can only say that I was in the habit of using it a dozen years before the publication of the memoirs of that gentleman. I have been as successful with it in the flatulent colic of the horse as in the hoove of cattle. One circumstance, however, must be expected with regard to the cow—the milk will be spoiled, for it will acquire an almost insupportable smell of ether. This generally disappears on the third day, or on the fourth at the latest.

“M. Charlot has also a favourite remedy. Most of the chlorurets have considerable good effect in neutralizing the gases disengaged in the rumen; but that which, in his opinion, has most effect is the chloruret of the oxide of sodium.

“Whenever the meteorization is extreme, and the inflation of the rumen is so great as to interfere materially with the action of the diaphragm, and threaten a rupture of it, a puncture should be effected by means of the trocar. This opening should be made at the superior part of the left flank, corresponding with the superior face of the rumen, at an equal distance from the last rib, the external angle of the paunch, and the transverse lumbar apophyses. Although the operation should be a last resource, according to Fromage de Feugré, it is nevertheless essential that it should take

place before all hope has vanished, as it is probable that the discredit which has followed its delay is more to be attributed to the previous hesitation and doubt of the persons employed than to the temerity of the surgeon. It is for the veterinarian to decide, cautiously yet firmly, on the proper time\*.

“I would now make a few observations on mephitic indigestion, arising from over-feeding, a malady more frequently occurring among stalled beasts, or those who have been kept upon dry food. It is characterized by a less sudden distention of the rumen, with hardness and fulness of that stomach—rapid loss of flesh—the pulse small, concentrated, and often feeble, and this always succeeded by inflammation of the digestive organs if not combatted in time. Some veterinary surgeons have confounded this malady with gastritis, complicated with inflation of the rumen, of which we shall hereafter speak; but this is an error. In gastritis the meteorization is only secondary, and to be attributed to the fermentation of the food contained in the paunch longer than the usual time, on account of the suspension of the rumination. In tympanitis from overloaded stomach meteorization is frequently the first symptom, and to which we must also add the fulness and hardness of the paunch, for that organ is, secondarily at least, the seat and source of the inflammation of the organs of digestion.

“This variety of tympanitis resists the power of mucilaginous drinks—of ammonia—of ether—and even also of the puncture. The accumulated food, hard and dried in the rumen, forms certain pellets, which, on account of their bulk, can no longer be returned to the mouth for a second mastication, for they are beyond the contractile force of the first stomach: it is absolutely necessary to cut into the paunch, and to introduce the hand, in order to empty it of its contents.

“I think that it is injurious to pour any liquid in considerable quantity, whether medicated or nutritive, through the incision made into the paunch, in order to extract the food with which it is surcharged.

“The paunch is not the stomach where the aliments are digested, that is, changed into chyle, or where the chyloferous absorption commences. Those which enter that stomach in a pulpy state must re-ascend to the mouth and become ruminated, not having been sufficiently comminuted by the first mastication. It is neces-

\* It is difficult to imagine what can be the cause of the hesitation and fear of the French veterinary surgeons with regard to the application of the trocar. We are in the habit of using it, and with much success, and never with bad effect, in an early stage of the complaint. We may be enabled to prevent a too rapid extrication of gas,—we afford it a means of escape as it is extricated, and remove much of the irritation which arises from distention of the rumen.

sary for the accomplishment of this re-ascension that the paunch should contract itself in every way, in order to push the food towards the esophagian canal, whose lips open to receive and mould the alimentary ball which passes through them, and remounts to the esophagus. The energetic contraction of the muscles aid the ascension; but if the paunch, after having been cut or punctured, and inundated with fluid, contracts itself, whether by means of the stimulus of the substance which it contains or to effect the ascension of the alimentary pellet when it is thus filled with both solid and fluid contents, is it not to be feared that some portion of the fluid and solid food will pass through the incision, and fall into the abdominal cavity. The presence of these substances in the peritoneal sac will invariably produce violent inflammation, and the death of the animal. Of this I have had many proofs, the particulars of which I cannot, for obvious reasons, now enter into."

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## MISCELLANEA.

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### A CASE OF ACUTE HEPATITIS IN AN OX.

*By M. DELAGE, of Toulouse.*

ON the 12th of July 1832, I was desired to see a Gascony ox, nine or ten years old, that was supposed to be rabid. The head was extended—the eyes fixed—the shoulders were cold, but there was heat about the hypochondriac region and the belly—the hind legs were close together, and incessantly trembling. The animal would often abandon himself to divers disorderly movements, and, among others, would strike his head forcibly against his flanks, and sometimes he seemed to have a desire to bite those around him. The pulse was strong and rapid.

To these symptoms succeeded perspiration over the whole body, heaviness of the head, and evident stupidity. There was weeping from the eye, and a quantity of spume, which on the first appearance of the disease was collected at the corners of the mouth. This was succeeded by a mucilaginous fluid, which ran slowly from the mouth.

Such were the symptoms which presented themselves at my first visit, during the two hours that I was with the patient. I could form no satisfactory diagnosis, yet it was necessary to prescribe something. I bled from the coccygeal artery, and administered gruel with a small portion of opium.

On the following day I again saw the animal, and to the symp-

toms before observed were added a remarkable torsion of the hind extremities, and an almost incessant spasm of them. The belly was slightly enlarged, and pressure on it evidently gave him pain. The pulse was small and wiry—the eye had lost its fearful expression—the eyelids were swelled, and some purulent matter escaped from them. The conjunctival and buccal membranes were yellow, and the beast was much constipated.

I now introduced into the dewlap a seton of black hellebore root, and ordered warm oily injections to be thrown up. On the morrow the animal was found dead. The seton had not acted in the slightest degree.

On examining him after death, the subcutaneous cellular tissue was yellow, and, here and there, were infiltrations of the same character. There was not any thing peculiar in the appearance of the intestines, only that the mucous membrane was yellow, and that the rectum contained some hard excrement, almost resembling that of the horse. The liver alone was diseased. It seemed withered and dried, as if it had been exposed during several days to an ardent sun. It was easily torn, but its colour was not materially changed. None of the other cavities or viscera presented the slightest lesion, except that the tissues generally were slightly tinged with yellow.—*Le Zooïatre du Midi*.

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### THE TREATMENT OF A WOUND IN THE PAUNCH.

*By M. CRUZEL.*

WE insert, simply to give our readers some idea of the French mode of proceeding in such cases, the history of a serious wound in the rumen of an ox. M. Cruzel was the surgeon consulted, and he stands at the head of his profession in cattle practice. An ox was lying on his right side in a meadow, ruminating. The well-filled paunch considerably projected from the left flank. Another ox gored him with his horn a little below the false ribs, and opposite to the articulation of the thigh. The skin was not broken through, but the epidermis was elevated through a space of seven or eight inches. A considerable swelling almost immediately appeared, which the cowherd bathed with salted water.

M. Cruzel saw the animal in the morning. The left flank was slightly swelled—the ox was dull—he scarcely took any food, and rumination was very slowly performed. He seemed to feel a great deal of pain when the pellet passed from the paunch into the œsophagus, the abdominal muscles contracting, in order to assist the ascension of the ball. In my opinion, the paunch felt its full share of pain, for I regard the contraction of its muscular coat as the essential and principal agent in rumination.

The artery was full, but without acceleration of pulse. The fæces were of their natural consistence. The tumour produced by the blow of the horn was twice the size of a man's head. It extended from the superior part of the flank to the very base of that region. An incision was made through the integuments, on the centre of the tumour, and some portions of half-masticated food protruded, proving that the abdominal muscles and the walls of the paunch had been ruptured by the horn, although the cutis had not been penetrated. Having enlarged the incision, he introduced his hand, and found a solution of continuity of both the paunch and the rumen, through the whole extent of the excoriation on the integument—that these torn edges were ragged, and that between seven and eight pounds of food had escaped from the paunch, and were impacted between the parietes of the abdomen and the skin. The whole of the opening had closed, and the food no longer escaped through it. He well cleansed the wound, and cut off a considerable quantity of dead and black portions that were torn and hung between the paunch and the abdominal parietes. A slight compression with pieces of soft rag effected an almost immediate reunion of the divided parts. He prescribed a restricted diet, but the cowherd disobeyed his commands, because the ox was in good spirits and ruminated, and shewed a desire to eat.

Two days afterwards the compresses fell off; the edges of the wound more rapidly approached to each other, and covered, by degrees, the wound in the paunch. The edges adapted themselves to each other, and promised a speedy and complete reunion. Fifteen days afterwards, M. Cruzel saw the ox, which they had been eagerly fattening for the butcher. He had evidently gained flesh. The incision was cicatrized, except that there remained, a little below it, a round tumour as large as a fist. It was a true abscess by congestion, the chief seat of which existed in the suppurating wound of the abdominal muscles and of the rumen. The proprietor having declined to sell the animal to the butcher, he objected to this abscess being opened to the bottom, and Mr. Cruzel was compelled to be satisfied with a superficial incision.

Some time afterwards the beast was destroyed, and he had an opportunity of examining the cicatrization of the paunch. The reunion was entire on the inner surface of that organ; but the large and numerous ridges which bordered the wound indicated its extent, and the loss of substance which it had sustained. The external surface of the paunch adhered to the abdominal muscles. A cyst, containing a little pus, was found in the centre of this adhesion. It was the origin or the remains of the abscess just referred to.



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MR. W. KARKEEK'S REPLY TO MR. W. C. SPOONER  
ON THE NON-IMMORTALITY OF ANIMALS.

My dear Sir,—I PERFECTLY agree with you that “the subject of metaphysics abounds with so many ramifications and sinuosities, that, unless we carefully avoid those paths not immediately essential to our argument, there will be danger of losing our way, and, perhaps, misleading our readers.” And fearing, from this gentle hint of your's, that I may have wandered from the proper track (for we are all liable to such errors occasionally),

“ Aliquando bonus dormitat Homerus.”

I have carefully read over the controversy between us; and the conclusion to which I have arrived is, that we are just in the same place from whence we started, inasmuch as (and you must excuse my modesty in saying so) the different positions which I attempted to establish in my “ Essay” have proved impregnable to your attack.

My first position was, that animals are endowed with reason, and, like man, are susceptible of friendship and of love; are influenced by the feelings of hatred and revenge; that they possess the faculties of attention and memory, and of the association of ideas. —*This position you allowed.*

My second position was, that animals not only feel, will, and act with discernment, but they possess the faculty of *conscientiousness*, inasmuch as they are capable of acquiring knowledge from experience\*. This faculty in brutes has not been noticed by any author that I am acquainted with, but it is particularly observable in all our domesticated animals.

I believe, Sir, that you consider this faculty to be innate in man, and “to form one of the strongest lines of demarcation between

\* See VETERINARIAN, vol. xii, pp. 662, 664.

the human being and the brute."—On this point we are at issue. I have already referred you to my remarks on this subject, and I defy you to sustain this position.

My third position was, that these qualities mentioned in my two first were dependent on the formation of the brain, where the spirit of intelligence exists; and that, if the intellectual phenomena in man required an immaterial principle superadded to the brain, we must concede the same to the inferior animals, as there is quite enough of similarity and approximation in their brains to our own to be acted on in a similar way.

In your first paper, which appeared in *THE VETERINARIAN* for April, you alluded to this last position of mine as being my "principal one;" and stated that, "in your next, you would shew cause why you did not consider the reasoning principle in animals as an attribute of immortality."

Well, Sir, your second paper appeared in June; but the wall which I had built up was not attacked; you did not even fire a shot at it. You shewed, it is true, in a very plain and beautiful manner, the wide gulph which exists between the reasoning powers of a philosopher and those of the inferior animals; but that great difference you have acknowledged in your third paper to be one of *degree*, although you believe it to be different in *kind*.

In my reply, I just hinted that you had not attempted to dispute this position; and again, in your third paper, you honestly and straightforwardly confessed your inability to do so, and that, after reading the arguments of divines and others as to whether the soul and the mind are the same, or distinct from each other, you could not decide, for the reasoning of neither was convincing; and yet you felt inclined to consider them distinct: for why?—because the latter opinion most accords with your own theory.

After these acknowledgments on your part, I certainly should have felt inclined to drop the controversy, as the principal difference between us then would have been, as to the admitting the reasoning faculties of brutes to be the same in *kind* as our own. And this, I think, I could easily have persuaded you to acknowledge. For although, to the proud and prejudiced powers of the human mind, *that degree of difference* may appear to form an impassable gulph, it is undoubtedly far otherwise in the eyes of those purified, exalted spirits who, "knowing even as they are known"—their cognizance of universal nature being unclouded by the mists of earthly passions, and unclogged by a necessity for sensual media of perception, regard from their high eminence, and in their just proportions of importance, the "worms of earth" of every grade, biped, quadruped, and reptile. If such be the humiliating view of man in the sight of these exalted creatures, how infinitely must his sel-

fish exclusive importance be disparaged in the eyes of Him, who chargeth with folly even those his angels!

Before Him whose "centre is everywhere and circumference nowhere," there is

——— "no high, no low, no great, no small;"

and we must remember that it is from Him has emanated the spirit of life and immortality—that He is a being of not only unbounded power, but love; and that his gifts are not partially bestowed or limited to the scope to which man's exclusive pride would confine them. As His providence, so His love, is over all His creatures:—

"He sees with equal eye, as God of all,  
A hero perish, or a sparrow fall."

But suppose, for argument sake, that I allow this "difference" between the reasoning powers of man and brutes to be one of *kind*, it will not alter my position, or make your's the stronger:—for aught we can tell, spirit, in its indivisibility and simplicity, may have as many *kinds*, and not mere *degrees* of inferiority and excellency, as matter has in its varied combinations. And I do not see why the spirit of an animalcula should not differ as much and far more essentially from the spirit of an elephant, though each is spirit, as a mote of dust or a pebble differs from the noblest mansion or most magnificent building or gem, though each is matter, and each a congeries of matter.

It should also be remembered, that there is not only a gradation of intellectual rank in the various species, but also among the individual members of each species; so that the most gifted of an inferior class may be seen to be superior to the least endowed of that immediately above it. Thus, each link of creation is wedged or dove-tailed in on either side; and the great chain presents itself to our view as more intimately and more entirely one. Thus we find among the lowest grade of mankind intellects and souls powerless and grovelling, that may be well said to dove-tail in with the most elevated of the brute creation; while, on the other hand, how glorious is the contemplation of those master minds among us, who, though on earth, evidently belong to a higher sphere, and to the company of spirits, more fitted than any dwellers on earth for the appreciation of their great powers and pure motives!

And, finally, in Heaven we may be justifiably bold in assuming a like gradation. The purified intellect of a Newton will not be limited to the enjoyments of an ungifted, uneducated peasant, but the reward will be apportioned to "the talents" improved.

But we may be justified in more than assuming a gradation of rank among the inheritors of Heaven. We are bound to hold it

as proven, finding it stated in Revelation;—not to mention other passages. We there hear it proclaimed of John the Baptist, that, of those that were born of women, there had not risen a greater; yet the least in the kingdom of Heaven is greater than “he.”

But you have compelled me to continue the subject, since I cannot allow you to defeat by a side-wind that which you could not accomplish by fair argument. I give you credit for being a good tactician, having done your best to make this principal position of mine appear as ridiculous as possible, by endeavouring to shew how absurd, and even degrading, must be the supposition that a microscopic being, or a Southampton bug, should possess an immortal spirit.

Mr. Manthorp, too, in his beautifully written paper, carries out the same style of argument;—“Are the flea,” he says, “and

‘Creation’s last and loveliest ones,’

both, indeed, actuated by the same immaterial and eternal spirit? Does the worm who crawled over Shakspeare’s tenement of clay actually have the same glorious course of immortality to run, as his godlike spirit which once dwelt there?”

I certainly give myself some little credit for having been the humble instrument in bringing Mr. Manthorp “out,” this being, I believe, his first appearance in the pages of *THE VETERINARIAN*; but, notwithstanding the talent which he has displayed, I was under the necessity of returning the flattering compliment which he paid me, that, in spite of the beauty of his arguments, “still they are not convincing\*.”

But it appears that neither he nor yourself have exactly understood me, since I never claimed for the inferior animals the same degree of immaterial being or spirit as for man. The intellect which man possesses has, in addition to all that brutes can enjoy, so many greater powers and qualities which they have never exhibited, nor can be trained to acquire, that it would be absurd to attempt it. We are justified in deeming our soul to be superior to any other sentient and perceiving principle that has yet appeared in any of our terrestrial companions; and, if a comparison might be allowed, is entitled to be considered as much superior to the soul of an elephant, as the soul of an elephant is superior to a Southampton bug.

Yet each is perfect in the station in which he is placed: the

\* It is impossible to consider the whole of Mr. Manthorp’s arguments in this paper, and I consider myself guilty of injustice not to reply to them in a separate article. Perhaps Mr. M. will consider some of the observations in this paper to bear on his opinions as well as those of Mr. Spooner’s, and he may consider *them* worth noticing: if so, I hope to hear from him again.

man, the elephant, and the bug, is perfect in its kind. The knowledge of the latter is of a different kind from the former, as they possess faculties which would laugh our boasted intellect to scorn: and yet man need not be jealous of them; for truly did the Poet exclaim, when he looked round on the face of creation,

“Where all is formed  
With number, weight, and measure; all designed  
For some great end!  
Each shell, each crawling insect, holds a rank  
Important in the plan of Him who framed  
This scale of beings; holds a rank, which, lost,  
Would break the chain, and leave behind a gap  
Which Nature’s self would rue.”

Thus the difficulty of believing animaculæ to possess an immaterial principle, when it is confronted and examined, vanishes, and it proves to be simply a question between magnitude and paritude.

It would be foolish to speculate on the feelings of the Infusoria, as many of them change frequently the shape of their minute bodies, all apparently the actions of spontaneous volition. Their external configurations greatly differ from those of the rest of animated nature; but it is a pleasing proof that one Creator has made the whole, and upon one grand general system of construction.

They may appear to those who estimate importance by size to be insignificant things; but magnitude is no criterion of either life or mind. The trees of the forest spring from the little corculum in their seeds. In that small spot their living principle, organization, and qualities, are abiding. Animals likewise emerge from the larger space of the maternal ova, so that the Infusoria, which the natural eye cannot see, are not very much less than that speck in the embryo of the elephant or the man, which the immaterial principle and soul of both first occupy and animate. This is as great a mystery as it is a certainty. We see this fact, however incompetent we may be, in our present ignorance, to comprehend or explain it. Mind can exist in a point as well as in the giant form into which that vital spark gradually enlarges.

Here I should probably have left the question to be decided by our veterinary brethren; but, having propounded a query which is rather beyond my capacity to answer in a direct manner, I must even do it indirectly:—*How is a lion or a tiger to employ himself in a future state of being?*

I believe that, in the design of that immense goodness which manifests itself to us by displays so various and so numerous, the ultimate destination of the lion or tiger was not to thirst after blood and live by carnage, any more than I can be persuaded that the human body is so organized and adapted for purposes which can

have their fulfilment in the present life; and I am inclined to believe with Sharon Turner, "that our earth is a nursery for the immaterial principle, that is brought into its first state of being in animal forms with a profusion that seems to us inexplicably lavish, in order that it may be elsewhere used in some advanced or ulterior condition, and in other modes of material existence."

I have already alluded to this subject in my previous paper, and must be excused if I extend it a greater length in this: for, when I reflect on the immense host of individual beings spread over every portion of our planet, of inconceivable variety of forms and constructions, of beasts, birds, fishes, insects, all revelling in the joyousness of existence, and they, as well as man, furnished with innumerable sources of enjoyment, passions, appetites, affections, feelings, solitary, social, conjugal, parental, and to a certain extent intellectual and moral, my reason is led, among other possible causes and uses of them, to regard them as so many depositories of the immaterial principle. Such a multiplicity of living beings in our world is far more exuberant than any occasions for it will appear to require: the mind is, therefore, led to the recollection, that the planet we inhabit is not the only orb of life and substance in creation. We are but one of the uncounted hosts which surround the throne of the Great Parent of All; and of these there appears to be a few destined to form the innumerable others, which are immediately and distinctly associated with us in our planetary system, and which revolve, as we do, round one common sun.

The peculiar seclusion of these from all the rest, the appointment of these only to be together, and their manifest combination into one system of being, apart from every other, and divided in space from every other by more myriads of miles than we can easily calculate, are, to me, clear and certain indications that we have some important relations with each other which have not yet been ascertained, and, perhaps, never will on this side of the grave.

But, ere I conclude, I would beg to remark that your reply to my geological query, although it might suit your own opinions, does not exactly agree with the "story of the earth." Is it possible that you can believe that our world has existed for such immense periods as its physical history teaches us, and during which eternity of time it was peopled with successive races of living beings, as wisely and curiously constructed as ourselves, for no other purpose "*than that it might be a fit and proper abode for man?*" And yet you argue "that the same improving process is still going on, and the jungle and prairie are gradually becoming the fertile plains." The improvement is true enough; but this is no argument "that all the inferior animals are but tenants



at will, while to man, and to man alone, is granted the long lease of earth's inheritance."

Among the sentient beings which have from time to time inhabited the earth, do we not discover at successive periods the appearance of new forms, which flourished awhile, and then passed away; while other modifications of life sprung up, and, after the lapse of ages, in their turn were annihilated? Yet the laws which governed their appearance and extinction were in perfect harmony with those which regulate the present existing races; every creature was especially and wisely adapted to the peculiar state of the earth at the period of its development then as now; and, when the physical conditions were changed, and no longer favourable for the existence of such a type of organization, it necessarily became extinct.

If I do not mistake, these phenomena teach us that we are placed in the middle of a scheme,—not a fixed one, as you would have me believe, but a progressive one; and, for aught we can tell, the whole human race will, some time or other, become extinct, and be succeeded by beings who excel us as much in power and wisdom as we excel the Inquandons of the ancient world.

For my part, when I reflect on "the monstrous shapes that one time walked the earth," that lived and died millions of years ago, creatures utterly swept away as entities from the face of the earth, yet their very forms, although "blotted from the things that be," are to me replete with voluble evidence, which bears strongly on the probability of the "Future Existence of the Brute Creation." And I cannot possibly believe that, during the immense periods which they existed, their only use was that the earth should gradually progress for man's shade. This is a narrow conclusion, depend on it. It may appear a mystery, and yet the phenomenon is not more unaccountable than the fact which we witness daily, that successive generations of living species should perish, some after a brief existence of a few hours, others after a protracted life of many years.

Reflecting on these phenomena, the mind recalls the impressive exclamation of the Poet:—

"My heart is awed within me, when I think  
Of the Great Miracle which still goes on  
In silence round me—the perpetual work  
Of the Creation—finished, yet renewed  
For ever."

I am, my dear Sir,

Your's very truly,

W. F. KARKEEK.

*Mr. W. C. Spooner.*

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This controversy must now cease. The subject has been a most interesting one: it has been discussed with kindly and gentlemanly feeling, and in a manner worthy of it. The heart of each writer has evidently glowed with sterling humanity.

It must now cease, for it is becoming an interminable debate. Our friend Karkeek can never prove his point. There is this simple, impassable barrier. To the scriptures of the New Testament *man* owes his only assurance of a future state. No metaphysical reasoning will legitimately bring us to this conclusion. To the Gospel alone we are indebted for the promise, that, although a man may die, he shall live again; but *this Gospel says not a word of the future state of the brute.*

Therefore, in the language which I have adopted in another work, "We admire the intelligence and the moral qualities of the inferior animals; we find each perfect in the situation in which he is placed: but we see plainly the limit which he has never yet passed. All has reference to the present state of being, and to his compartment of it. He lives his day, and he passes off the stage."

There can be no doubt that, in the future world, destined for the virtuous, every portion of it will, as now, under the superintendence of an infinitely benevolent Being, teem with life and happiness. *Man will there live again;* but what forms of existence will surround him has not yet been revealed, and it becomes us not to be wise above that which is written.

Y.

## ON PHLEBITIS IN HORSES.

*By Mr. R. READ, V.S., Crediton.*

I BEG to address you on a subject replete with interest, viz. Phlebitis in Horses, having been induced to do so from an interesting discussion on inflamed jugulars in the horse, in the August number of THE VETERINARIAN. Many opportunities have been afforded me of investigating its cause and treatment: I think that I may say that more than an hundred cases have been under my care.

Farmers and grooms always attribute it to the vein being cut through on the opposite side; and, if an inflamed vein happens in our practice, we are censured, and plainly told that it is owing to having cut the vein through. Any attempt to reason on its improbability is heeded not, and neither argument nor evidence will convince to the contrary. Should we have to bleed another horse for the same employer, a caution is hinted, "Don't strike him too hard,

or you will serve him as you did the last you bled." This, however, I believe to be rarely a cause, let the gentleman farmer or groom think what he will. If this was a common cause, as they believe it to be, more accidents would occur. No men strike harder in order to perform this operation than smiths, farriers, or grooms, yet but few more cases happen from their operating than from ours.

Now, in my humble opinion, it is closely connected with one of three causes:—First, a peculiar idiosyncrasy of temperament; secondly, a non-union of the parts by the first intention; thirdly, a dependent head after the operation.

The temperament to which I allude I would call the adipose and phlegmatic, almost peculiar to black and iron-grey farm horses, for in those kind of horses the purulent process is more quickly developed from wounds. In seven cases out of ten that have come under my notice for inflamed veins, these have been the colours.

I likewise believe that all horses fed on farinaceous food, oats and beans, have a greater tendency to form pus from wounds, and are more liable to phlebitis, than the grass-fed horse, whose temperament I shall designate the lymphatic, and in which wounds do not so kindly suppurate. Horses meeting with punctured wounds at grass have more lymphatic cellular effusion than the stabled one, and suppuration is not so easily induced in them. I will now illustrate this opinion from casual circumstances.

Some farmers turn out their horses to grass in the spring, and, in about a fortnight or three weeks, take them up to be bled, and turned out again. No evil ensues: they have acquired while they were turned out an excess of lymph, consequently the bleeding orifices heal by the first intention. Some farmers, on the other hand, bleed before they turn out in the spring. Phlebitis is then common from, as I have before stated, there being a greater tendency to suppuration in horses fed on substances containing farina. Some farmers bleed on taking their horses up in the fall of the year. On referring to my case-book I find none at that period.

Cows seldom have inflamed vein, although they are so forcibly struck when bled, and so carelessly managed after the operation. I think the reason is their having such a tendency to lymphatic exudation; for we know from observation that wounds, cut or punctured, do not easily form pus in cattle, but are chiefly surrounded by lymphatic infiltration.

I have ventured to offer these opinions, and respectfully ask my veterinary brethren, through the medium of this our invaluable Journal, whether in their practice they have had more cases from the colour, idiosyncrasy, and diet, before described, than from the grass-fed horse. This being an interesting subject, and so much

connected with the reputation of veterinary practice, I should like to see its prevailing cause clearly explained. Let not this interesting subject die away. The treatment pursued by me has been more fortunate than I had any right to expect, having never lost a case.

When a case of phlebitis is brought to me, I immediately order the head to be elevated, by tying it to the rack during the day; and mashes and gruel to be given to the animal, with a little hay at intervals, so that he shall not be continually masticating. At night the muzzle is put on. Without the least hesitation or fear, I at once rub in a blister; pass a seton above and below the indurated vein; and repeat the blister every third day (made into a liquid state by the addition of oil). I have always been enabled to arrest secondary bleeding by the cautery.

If abscesses form either below the ear or over the parotid glands, or in the cellular tissue over the hardened vein, open them, and inject diluted naphtha. There is rarely, if ever, any occasion to slit up and take out the vein, for it is sure to be absorbed or removed by partial sloughing.

The most desperate cases that come under my care are those that have been under treatment by the empiric, where no attention has been paid to elevating the head, a most important feature in the cure. In from four to six weeks horses have been to work again on the farm in nearly every case.

I will now mention two cases occurring within the last two years.

CASE I.—This was an iron-grey horse belonging to Mr. Kingdon, of Thoverton. He was bled by a farrier. The incision was not made in a line with the vein, but obliquely across it. Inflamed vein rapidly followed. When I was called in to see him, the lips of the orifice were everted—there was muco-purulent discharge—the neck was much swollen, and the face also on the same side; mastication was painfully performed, and the vein indurated from its bifurcation to half way down the neck.

Blistering and setons effected a cure in five weeks.

Now my firm conviction is, that, from cutting the vein across, the edges were not so well opposed to each other, nor so disposed to unite as in the longitudinal excision. The obliquity of the wound was also a cause of non-union by the first intention.

CASE II.—This was an iron-grey horse belonging to Mr. Jones, of the same place. He was bled by the same farrier, and the vein was cut in the same direction. Inflammation of the vein in a bad form followed. The treatment was as in the preceding case, and the horse was at work in six weeks.

I have introduced these cases in order to shew that non-union by

the first intention, from any circumstance or neglect, is a frequent cause of inflamed vein. Peculiar idiosyncrasy I believe to be the next most fruitful cause of phlebitis.

Horses that have lost a vein swell about the head during the first summer that they are turned out. They occasionally do so in the ensuing one, but only in a moderate degree. After a lapse of time scarcely any ill effects remain, and the loss cannot be discovered except by close inspection; neither should I object to a horse on that account, for any work, either as a hack or farm-horse.

## ON THE TREATMENT OF THE HORSE IN THE AUTUMN.

*By E. GABRIEL, Esq., M.R.C.S. & V.S., London.*

AMONG the many interesting topics which engage the attention of the philosophic inquirer into natural history, one, and certainly not the least interesting, is the contrivances to which nature has recourse to enable animals to bear the variations of the temperature by which they are surrounded. The power of supporting life under any considerable alterations of heat and cold is possessed by different animals in very different degrees. Some can exist only within the tropics, others are capable of adapting themselves to a more extended range of temperature; while to many the frequent and trying variations of a climate like ours appear to produce but a very temporary inconvenience. Migration, torpidity, and variation of clothing, appear to be the three principal means by which this end is obtained. Of the two first it is unnecessary here to speak; but the third, that is, the change of clothing, may not form an uninteresting subject for a few remarks, particularly at this season of the year; more especially as we shall find that condition—that all-important object with the horseman, the veterinary surgeon, the ignoble groom, and the noble owner—is in no slight degree dependent on it.

It cannot have escaped the notice even of the most careless observer, that very considerable changes take place in the appearance of animals at those seasons when the great transitions from heat to cold and the reverse set in, but more particularly the former. The cause of this is, the demand made on their constitution to make provision for the change of temperature, without which they would not be enabled to bear the cold of winter—without which they could not even exist in a natural state in severe seasons. If we take any class of animals, as, for example, sheep, swine, cattle, or horses living in a warm climate, and compare it with the same class living in a cold one, we shall find very considerable dif-

ferences in the quantity and quality of their clothing. The wool or hair of the first will be observed to be fine, thin, smooth, and glossy; of the second, coarse, thick, rough, and dingy; and in those living in a mediocre and more variable climate, where the alternations of heat and cold require provision to be made for the comfort of the animal under either, we find that an approximation to the one or the other of the beforementioned states exists, as circumstances may require. Take the horse in this country as an example. In summer, when the thermometer is ranging from sixty to eighty degrees, we find him with a thin smooth glossy coat, radiant with colouring; his extremities clean, fine, and free from a rough or misplaced hair—a counterpart, in fact, of his progenitors in the East:—in winter, on the contrary, when the mercury has fallen many degrees beneath zero, we scarcely recognize him in his thick, rough, coarse colourless coat, his extremities enveloped in long shaggy hair, destructive of all form and symmetry. No exquisite of the day, dressed in the most approved style for a summer lounge in the park, can be less like himself when wrapped up in his shooting costume for the first of September, than the horse is at the same seasons of the year.

What we, however, can so easily effect by art is not effected without some considerable derangement of the constitution by nature: the change, however, must be made for the comfort and even preservation of the animal, and in a natural state it is made without much, but still some, disturbance; but in a domesticated state, where his powers are already taxed to the utmost, the extra call produces a double source of exhaustion, which requires to be carefully supported. This accounts, therefore, for our finding him at this time of the year weak, languid, dull, easily fatigued, and peculiarly susceptible of disease; his condition is too often lost, and, when lost, can scarcely be regained for the winter. The slightest exertion makes him perspire profusely, while the greatest labour will with difficulty dry him; he may feed as usual, he may look tolerably well to the eye, but he will not be as equal as at other times to the demands we may make on him; or, if he fail us not in the essential point of work, he will too often annoy us by an appearance as contrary to our wishes as a dreadnought would be in a ball-room. This is the usual state of the case in those instances where they are kept in a state of, or any thing approaching to, nature.

In the artificial and luxurious state in which some of our best horses are kept, living seven-eighths of the year through in an atmosphere regulated by a fixed point of the thermometer, and that, too, elevated to a considerable degree—where, except for a gallop or an hour's exercise, the changes of temperature are scarcely felt, and



consequently the necessity for a corresponding change in their natural clothing is not required, in these cases we do not find the difference before described: they coat well all the year through, their condition continues unaffected, and their energies are alike perfect at all times and seasons. "Oh, but this is because they are so well bred," will be the remark that inevitably follows this account; and I give the man joy who thinks he can controvert it, coming as it will from a class of men, who in general know as much about general principles and the laws of nature as amounts to—— But no reflections; the fact is, however, that the same thing might as easily be done with a Shetland pony or a dray-horse, but, as the same necessity does not exist for its being done, it is generally thought impossible to do it.

Leaving, however, these cases out of the question, let us see what takes place in ordinary circumstances. Our favourite hack, that most valuable and most difficult to obtain of all the varieties of the horse, does not, on coming out of the stable, look exactly as we could wish: his coat is not precisely in its place, his legs look rather rough, and altogether he is not "*comme il faut*." Still he lays back his ears, gives his usual recognizing glance of the eye, and is as free and ready for work as ever, and we decide, therefore, that it is mere fancy, and every succeeding mile he goes make us more convinced of it. Towards the end of our ride, however—say five-and-twenty or thirty miles—we again get a little fidgetty: if he pulled before, he pulls a little less now; if he had a very light mouth, we can now feel him a little in hand. He does not dry on his return as usual, and appears to have forgotten the way home, if we may judge from its failing to excite him to do the last mile rather better than the first. We, of course, do not fail to give an extra injunction to get him fresh, but we take care also to see it done, and then trust that all is right. The next morning, however, his coat stares, his skin is dry, and he has all the appearance of having been left in an inn-yard standing in a draught for an hour on the preceding evening, instead of having had an extra hour's work bestowed upon him. He feeds well, however, and appears in as good spirits as ever; but to-day he does not do his work so well, he perspires more, and, instead of being dry before his return, makes it no easy matter to dry him after; and in this way he will gradually go on, becoming more languid, less pleasant in his work, rougher in his coat, and more profuse in his perspiration—getting sworn at by the groom, because, as he tells us, two or even three hours after our return, his labour has been all in vain, and he is nearly as wet as when he came into the stable. This process will go on an uncertain time, depending on the constitution of the animal, until, nature having effected the necessary change, he again rallies,

and "Richard is himself again," with the trifling difference of having on a Flushing jacket instead of a silk one. Three very perceptible changes are evident during this process;—the hair loses its glossy soft character, and is dry and staring—the skin ceases to secrete that peculiar unctuous matter which keeps it soft and flexible, becoming dry and scaly, more, in fact, like the skin of an elephant; and the exhalants on the surface become relaxed, pouring out profuse perspiration without any adequate cause for it.

This process of preparation for the endurance of cold is going on throughout the whole animal kingdom;—in the wild as well as the domestic tribes, in birds and reptiles as well as animals; and the moulting of the one, and the shedding the skin of the other, is precisely analogous to the changing the coat, whether of wool or hair, of animals. Is it a mistake of Nature's to include the horse in this arrangement? Would he be better with his thin silky coat in a cold frosty night than in a rough one? Certainly not:—she works on general principles, not for specific purposes, and her arrangements are made for animals in a natural state, and are equal to all the demands likely to be made on that state; but when we keep them in an artificial state, and make extraordinary demands on their powers and constitutions, we must have recourse to art to assist nature in the keeping up the supply of the necessary stamina. And this leads us to the main point of consideration,—the remedy.

In considering cases of this description, it must be borne in mind that two objects may be had in view, requiring very different modes of treatment; one being merely to assist Nature in the process she has commenced; the other to get rid of the result of that process when completed.

The first object will be best obtained by attention to diet, allowing more liberal feeds, and those of the most nutritious quality: if beans, cracked or ground, have usually been given, an increased proportion should be allowed; if not, they should be added to the general feeds. Old sweet hay, sound dry oats, and a liberal proportion of cracked beans, will in very many cases supersede the necessity for medicine. Should this, however, not be the case, a course of tonic or alterative medicines will be found highly efficacious, or a judicious combination of the two will effect all we could wish.

Were it not high treason, and that too of the most dreadful description, in this age of the march of intellect, to quote an old author on veterinary matters, I would declare that I know of nothing more desirable of the first class than the far-famed Doctor Bracken's far-famed cordial balls. Who that has the slightest pretensions to the slightest knowledge of horses, has not the name

of Henry Bracken, M.D., "familiar in his mouth as household words?"—and who, that has ever heard of the celebrated doctor, has not heard of, nay more, does not even know, every identical ingredient in his universal panacea, his all infallible cordial ball? I never knew but one modern at all to be compared to the worthy doctor, and his name will, I am sure, be anticipated by every pupil who attended the Veterinary College during his lifetime;—it is Dr. George Pearson, of eccentric memory. Who does not respect the name of the old man, and who will not admit the truth of the comparison? not indeed in horse knowledge—for there the M.D. of the seventeenth century had an infinite advantage—but in the ardent pursuit of truth, the love of the veterinary profession, and the straightforward, original, and absorbing manner in which they both communicated the vast stores of knowledge they possessed. Peace to their manes!

One of these balls then, I say, or some similar composition—for which, as every one has an invaluable prescription, a recipe here introduced would be merely a piece of supererogation—should be given every day. Should alteratives be preferred, any of the preparations of antimony combined with a warm aromatic, with the addition of a little sulphate or carbonate of iron, will have a most beneficial effect, by restoring that secretion on the skin, from the want of which arises that dry arid state invariably found accompanying a staring coat. Warm clothing, a warm—I had almost said a hot stable—not, be it remembered, a foul or badly ventilated one, will materially aid the object in view. The adoption of these remedies will to a great extent assist Nature in her operations, and in many cases considerably shorten the process; but whether they are had recourse to or not, the process will be accomplished, the extra demands will subside, and, the exciting cause being got rid of, the horse will be himself again. It is this fact that explains why the non-descript modes of treatment recommended by some, such as bleeding, physic, diuretics, and the like, are supposed to be efficacious, while the truth is, the animal rallies in spite of them. With respect to the second object to be had in view, the getting rid of the great coat, which too often becomes a wet blanket, we go the whole length of the warmest advocates for clipping, shaving, singeing, or any other more expeditious or scientific process that may be discovered, for removing at "one (not) fell swoop" the whole of the naturally desirable but artificially inconvenient result of cold weather. A free escape of perspiration, a moist and softened state of the skin, an increase of health, a capability of enduring fatigue, and a short and easy way of making him fresh after it, may be reckoned among its many good effects; letting alone the mere pecuniary consideration, that a horse so treated will

positively do better, and work harder on shorter feeds than he could before—without, as far as I am aware, a single drawback to qualify them. In short, I know of no modern innovation in the stable management of horses at all to be compared to this, and therefore am not in the least surprised at witnessing its almost universal adoption.

Trusting these few cursory remarks may lead to a better understanding of the causes affecting, and, of course, a more rational treatment of the horse at this peculiarly susceptible season of the year, I may conclude with observing, that, although among those with whom we have principally to do, that is, trainers, stud grooms, jockeys, "*et id hoc genus*," we occasionally find some whose obstinacy proves that "where ignorance is bliss, 'tis folly to be wise;" yet that, in general, they are open to conviction, and ready to attend to reason, provided it is laid before them in a moderate and conciliatory manner, instead of being dogmatically asserted and authoritatively insisted on.

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#### RHEUMATISMAL INFLAMMATION OF THE SYNOVIAL MEMBRANE OF THE SESSAMOID BONES IN THE HORSE AT THE CLOSE OF PLEURISY.

*By M. BOULEY, jun., Assistant Professor at the Veterinary School of Alfort.*

THERE are certain diseases well known to veterinary practitioners, and often observed by them, which have never been well described in our works on pathology. The species of lameness which will be the subject of this paper is an illustration of this.

Horses that have recently suffered from pleurisy, or pleuropneumonia, are often attacked, without the slightest warning, by violent lameness. The time varies from fifteen to thirty days after the cure of the pleurisy. Sometimes only one of the fore legs is attacked; sometimes both, and, very rarely, all four legs, beginning with the anterior limbs.

The lameness usually appears all at once, and without any apparent cause. On examining the limb, we find, at the inferior part of the flexor tendons and above the fetlock, a small round tumour, so tender that the animal cannot bear the least pressure upon it. This tumour, which has its seat on the sheath of the sesamoid, appears to be the result of violent inflammation of the serous membrane which lines that cavity. In most cases it seems limited to or fixed (*cantonnée*) in the spot where it first appears: sometimes, however, it spreads from below upwards through the

whole extent of the sheath. In a very few cases the inflammation is extended to the two flexor tendons, invades their tissues, and gives birth to some remarkable pathological lesions which will presently be mentioned.

The general symptoms vary according to the intensity of the disease and the number of limbs affected. When the disease is limited to one fore-leg, a certain degree of lameness is observed, but the animal may, perhaps, preserve his appetite, and his general health may not be deranged: but if both the fore-legs are affected, the horse will exhibit all the signs of founder, although it is really a different disease. He will have fever, he will refuse his food, his back will be bowed, his hind legs will be brought as far possible under him. If all four legs are attacked at the same time, he will be constantly down, and he will evidently be in a state of the most dreadful suffering. If he is not promptly relieved by active and rational treatment, he will beat himself about until he is covered with wounds, and will die of excess of fever.

In the majority of cases, however, the original swelling and the lameness will gradually diminish, and, at the end of fifteen or twenty days, the horse will be well if proper treatment is adopted: but if the disease is neglected, many untoward local evils will take place. The inflammation will extend from side to side, and above and below, occupying not only the whole superior extent of the sessamoidal sheath, but also the cellular tissue that separates it from the metacarpal or metatarsal sheaths. The swelling will rapidly increase; the heat and pain will be excessive; the horse will not be able to rest on the affected limb without great pain, but will carry it extended before him. The inflammation will increase, unless the most active measures are employed; it will extend to the flexor tendons, and that portion of the serous membrane which lines the groove, in which the perforans moves. All the inflamed parts successively or simultaneously contract adhesions with each other to a greater or less extent, and form a tumour of considerable size, but not so painful as at the commencement of the disease. By degrees it becomes almost impossible for him to walk—the flexor tendons contract and become shortened—the pastern bone projects—and the horse can support himself only on the extremity of the toe. Having arrived at this point, the disease may be considered as all but incurable. If the horse is destroyed, the diseased parts will be found united together, confounded, and forming a white, homogeneous, slightly radiated mass, in which we should search in vain for the primitive organization.

The causes of this disease are difficult to explain. It seems to have much analogy with "*la nerf-ferrure*," or contusion of the flexor tendon; but they are altogether different affections in their



causes, their situation, their progress, and their results. It may arise from the fatigue which horses undergo when, in acute diseases of the chest which render it almost impossible for them to lie down, they often stand fifteen or even twenty days. This, however, is not a satisfactory explanation, for there are other diseases in which the horse is compelled to stand quite as long, and endure quite as much fatigue, but no consequence of this kind is known to follow. That it is connected with previous affections of the chest, the frequency of its following them renders probable. The truth of the matter is, that we know not the cause. There is something special, something *sui generis* (d'exceptionnel), which, not being able to explain, we must content ourselves with observing; well persuaded that, at some not very distant time, the progress of science will clear up this and many other etiological difficulties.

When this disease attacks only one leg, and is limited to it, and occupies but a small space in it, rest, emollient baths, and cataplasms, and, when the lameness is passing away, gentle exercise on soft ground, with the use of resolvent frictions, will usually cause it to disappear in the space of twelve or fifteen days. If the disease assumes a more acute form, local bleedings should be practised, assisted by narcotics and emollients. This will generally afford relief.

When at the expiration of twenty or twenty-five days, in spite of the employment of simple and rational means, the lameness continues, the swelling increases, and the pain is diminished, there is reason to fear that the disease is passing into a chronic state, and that it will become very difficult to cure, if not absolutely incurable. We must then have recourse to the most active means. The tincture of cantharides, corrosive sublimate, turpentine, and blister ointment, are principally used, and the most efficacious. Sometimes the application must be repeated several times. If these remedies fail there is but one resource, viz., the application of the heated iron; but this is far from infallible, and, in despite of all our efforts, the swelling and lameness too often continue to increase, until the animal is unfit for every kind of service. The division of the flexor tendons has been tried, but has generally come too late, or the pastern joint has been too long and too much doubled forward to admit of its return to its proper situation.

M. Bouley now relates some cases. In the first, attended but by slight swelling, a cure was effected in fifteen days by the use of emollients.

In the second, the swelling and lameness were more considerable; they shifted from one leg to the other, and at last both were affected at the same time, and the horse was unable to stand during many days. Bleedings, local and general, were resorted to, and emollient



applications, but without avail; at length the firing-iron was used, and a complete cure was effected.

In the third case, three horses in the same stable were attacked at the same time. They had all previously laboured under acute diseases of the chest. Bleedings, local and general, with emollient cataplasms, effected a cure in about two months.

The fourth case relates to a horse which had this peculiar inflammation all round. He was down ten days—his limbs were agitated by convulsive movements, his body was covered with perspiration, and the pulse was hard and quick. The usual means were resorted to, and in less than three weeks the disease disappeared from the hind extremities, but it was eight months before he was sound and strong in the fore limbs.

In the fifth case all four legs were attacked. The hinder legs soon began to assume their natural position, but, in despite of blisters and firing, the swelling and lameness continued to increase in the fore legs until the flexor tendons became permanently retracted. The pastern joint was doubled forward and fixed, and the horse walked entirely upon his toes.

The division of the tendons was effected on the right fore leg. The foot returned to its natural position, and the horse could walk on that leg with a degree of facility that seemed almost incredible. This fortunate result induced us to conceive of the possibility of a complete cure by a division of the tendons on the other leg; but we were soon compelled to abandon that delusive hope, for the good effects which we had produced gradually disappeared, until, in less than two months, the limb that had been operated on returned to its former unnatural position, and the animal was destroyed. The tendons and neighbouring parts had acquired the morbid structure already described. There was no thoracic or abdominal lesion, except some adhesion of the lungs to the costal pleura and to the diaphragm, the consequence of the pleurisy which had preceded the disease of the leg.

M. Bouley says that he could introduce numerous other cases, but he will confine himself to a few remarks on the etiology of the disease.

The coincidence between acute articular rheumatism and inflammation of the serous membranes of the thoracic viscera, are circumstances of frequent occurrence in the human being. This coincidence, however, until the methods of exploration of the chest lately introduced, was rather guessed at than definitively proved. The serous inflammations of the viscera which are oftenest complicated with articular rheumatism in the human being are, in the order of their frequency, pericarditis, pleurisy, and, more rarely, peritonitis and meningitis. These phlegmasiæ sometimes manifest them-

selves at the commencement of rheumatic fever—oftenest during its course, and frequently during the period of *convalescence*. They rarely *precede* the articular accumulations of fluid which accompany or constitute rheumatism, but they are almost always *consecutive* to this latter affection. M. Bouley, senior, has lately observed, in the Hotel Dieu, a patient, who, during an attack of pleuro-pneumonia, the resolution of which was slow, exhibited symptoms of rheumatism in the right wrist. This observation deserves to be recorded in connexion with our present inquiries.

After some other important observations, M. Bouley thus sums up the matter.

1. Horses that have recently laboured under pleurisy are often suddenly attacked by lameness of a peculiar character.

2. The affection which determines this species of lameness always has its seat in the sheath of the sessamoïd bones, and consists in inflammation of the serous membrane which lines that cavity.

3. This disease manifests itself in every case separate from any accidental cause, whether it be during the existence of the pleurisy, or after the complete re-establishment of the patient.

4. This disease ordinarily attacks one fore-leg only, sometimes both, and rarely all the extremities at the same time.

5. The fore-limbs are always the first that are attacked.

6. This affection may at first be mistaken for contusion of the flexor tendon, but from which it differs essentially in every relation.

7. It is most serious when it attacks two or more of the extremities at the same time.

8. Being judiciously attended to it is generally cured, but nevertheless, in some cases, it resists every mode of treatment.

9. It has a great analogy with the serous inflammations of the viscera which are often complicated with acute rheumatism in the human being.

10. Finally, this synovial inflammation develops itself in the horse under the same influence as the pleurisy which precedes it, which leads us to believe in the analogy of the tissues, and otherwise confirms, as we have seen, the importance of comparative pathology.

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## A NEW MODE OF TREATING WOUNDS IN THE JOINTS.

*By M. MERCIER, M.V., à Evreux.*

WOUNDS penetrating into the articulations are, of all the solutions of continuity of the tissues, the most serious, and the most difficult to be treated.

They are, in the majority of cases, produced by exterior violence, but they are sometimes consecutive on acute inflammation of the articulations.

Among our domesticated quadrupeds they oftenest occur in the horse.

Some articulations, by means of their position, are more exposed to this malady than others.

The *primitive* wounds in the articulations differ from those which are *consecutive* in their symptoms, march, duration, and curability.

The primitive wound announces itself, all at once, by a fistula, straight or sinuous, large or small, which leads into the articulatory cavity. From this fistula is discharged a tenacious fluid, abundant, yellow, transparent, and inodorous, and which forms on the surface of the wound an albuminous clot of slight consistence—in a word, it is the synovia which is escaping from the articulation. There is at first neither inflammation, nor heat, nor pain, nor the fever of reaction. At the commencement of the affection, if there is but little swelling of the joint, and the fistula is straight and not deep, the wound will often heal naturally, and in a short time.

When the case is not thus favourable, the serous synovial membrane, and the tissues which surround it, become the seat of acute inflammation—there is swelling of the joint—a fever of reaction, and ordinarily of an intense character, comes on—the fluid which runs from the fistula becomes purulent—it increases in quantity, and at the expiration of four-and-twenty hours, and especially in hot weather, it begins to diffuse a peculiar putrid smell. It is deposited on the surface of the dressing in the form of large yellow soft clots, infiltrated by an abundance of serous fluid, and which escapes on pressure.

A cure is sometimes obtained, but always very slowly, and followed by true or false ankylosis.

Ordinarily, from the expense of a protracted treatment, the owner finds himself under the necessity of destroying the patient.

When the wound is consecutive to acute inflammation of the articulation, it is accompanied by symptoms resembling those already described, but more intense. The progress of the disease is more rapid, and its termination is ordinarily fatal.

In order to obtain a cure of wounds penetrating into the articulations, a variety of means have been vaunted and tried, some with partial or even complete success, and others altogether without benefit. Sometimes the articular wounds heal spontaneously, without enlargement or ankylosis of the joint. Sometimes they are simple, and without complication, and by proper treatment their cicatrization may be obtained. Often they terminate in true or false ankylosis; and, lastly, in a great number of cases, these wounds are incurable, whether it is that death is the result of the intensity of the sufferings of the animal, or, on other accounts, it becomes necessary to destroy the sufferer.

This being premised, it is evidently a most important thing to discover some means by which a cure may be obtained of every articular fistula, quickly, completely, and without ankylosis, whatever may be the degree of inflammation in the articulation. I will not dare to say that I have obtained this; I only yet possess sufficient facts for the groundwork of future study and practice. My object at present is to make known an agent which has always enabled me to conquer these articular fistulæ.

That agent is not new in our therapeutics. It is *l'eau de Rabel*, composed of one part of sulphuric acid and four of alcohol. The ordinary composition of this medicament is one part of acid and three of alcohol.

I was led to use this medicament by having had to treat a fistulous wound penetrating into the articulation of the lower pastern and coffin-bones. This fistula had bid defiance to every healing measure that had been attempted. I bethought me, that certain chemical reagents, the acids, and alcohol among the rest, had the power of coagulating albumen. Might not the same effect be produced by these agents on the synovia, a fluid which contained so great a proportion of albumen? I attempted it. I lessened the caustic properties of *l'eau de Rabel* by adding to it one proportion of alcohol, and I applied it to the fistula. I immediately obtained, to a considerable extent, the result that I wished, and in three weeks the articulation was closed without either enlargement or ankylosis. The following were the circumstances to which I paid the strictest attention:—

1. The articulation was kept as much as possible without motion. This may be easily accomplished in some of the articulations by the aid of bandages. That which I generally use, and which is most convenient for the knee, is the following: take five strong laths, and cut them to the length of the limb; then, with four bandages with buckles, apply them tightly about the limb, having placed some thick pledgets of tow over their inner surface. This will keep the leg extended and the articulation immoveable.

2. A thick pledget of tow, thoroughly wetted with *l'eau de Rabel*, was applied on the wound, and this was covered with other dry pledgets confined by tape or riband, and over this the laths were placed.

3. If the dressings could not be fixed by these means on account of the conformation or injury of the part, the laths were loosened, and the pledgets alone were used.

4. Twenty-four hours after the first dressing the joint was examined. This was done with the greatest possible gentleness and care. A coagulum of synovia would generally be found on the orifice of the fistula—it was the condensation of the synovial albumen by the alcohol and the acid. Every care was taken that this should not be in the slightest degree disturbed. If the pledgets were too large, as would sometimes happen, and had imbibed too much of the liquid, they are not to be disturbed by stripping off the dressing, but the thickest and most prominent parts are to be cut off, and pressure made by a soft compress, in order to absorb as much as possible the liquid by which it is impregnated.

5. The edges of the wound being well cleaned, and the coagulum somewhat lessened in size, fresh pledgets are placed over it moistened by the same liquid, and confined by flat pieces of wood as before. These dressings should be removed from time to time, according to the state of the fistula. It may happen that it will be necessary to renew the dressings twice in the day, and, on the other hand, they may occasionally remain three or four days without being disturbed. The quantity of pus which impregnates the dressing, and the intensity of the pain, are the circumstances by which we are to be guided.

6. We ought not to cease to employ the spirit and acid at the removal of the different dressings while there remains a condensed clot in any part of the wound.

When the clot drops off, no traces of the fistula will generally be found. It will then be necessary to dress the wound with *l'eau-de-vie*, or tincture of aloes. In a few days it will lose the black colour which the contact of *l'eau de Rabel* gave it, and become of a lighter or darker vermilion hue. The pus which is secreted will be of a good character, and a cure will not be far distant.

By this treatment, the cure of these fistulæ is, as a general rule, very prompt. I have known them completely obliterated by one application of the fluid.

7. When the inflammation is very intense, and the joint is much swelled, it will be necessary to have recourse to fomentations and emollient cataplasms, in order to ease the pain, and to restore the secretion of the synovia to its natural state.

The remainder of this memoir is occupied by a history of the application of "*l'eau-de-Rabel*" in several cases of open-joint, and its success in all except one.

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[The above is translated from the leading French journal, "*Recueil de Médecine Vétérinaire Pratique*" for August, and, in connexion with the discussion on Open Joints, related in the present number of THE VETERINARIAN, may not be altogether uninteresting. The valuable Essay of M. Bouley, on Rheumatismal Inflammation of the Synovial Membrane of the Sessamoid Bones, will here also find an appropriate place.—Y.]

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### ON THE EARLY CASTRATION OF THE COLT.

Sir,—AMONGST the numerous books which the establishment of our Farmers' Club has given me the opportunity of perusing, there are few I read with more pleasure than that excellent periodical THE VETERINARIAN.

Among so large a body of subscribers, I cannot always see it so early as I could wish, and this accounts for my writing to you now on a subject that engaged the attention of the Veterinary Medical Association several months ago. I allude to the new method of castration. I was pleased to find it advocated on the plea of its putting the colt to less pain than the old system; and feeling assured that in this country it is a necessary operation, and, no doubt, although performed in the very best method, a painful one, it is a duty incumbent upon us to practise that plan which combines safety with the least punishment. With such feelings I make no apology for the following remarks:—

Being a breeder both of cattle and sheep, although on a small scale, and having found the advantage of cutting both my calves and lambs very early, I suggested, six or seven years ago, to the highly respected veterinary surgeon of this town, Mr. Rolfe, that it would be desirable to castrate colts before they were weaned, and inquired whether he had ever done so. On his replying in the negative, I requested him to try first on a foal of my own, then about six months old, and which had not been taken from its dam. The colt was cast and cut in the usual way, and on the same day was playing about as usual, with no swelling nor apparently ailing any thing, nor was there the slightest check given to its growth or blooming appearance.

The same mare had another colt foal on the following year, and, wishing to know whether the testicle could be found at an early



age, I sent for Mr. Rolfe when the foal was ten days old. We cast it, and of course, without any difficulty, found and extracted both testicles, using the hot iron slightly. This foal, like the last, appeared to suffer little from the operation, and I resolved for the future to have all my colts castrated at the age of ten or twelve days.

Unfortunately the mare has bred fillies for the last four years; but, after reading the discussion in *THE VETERINARIAN*, I asked Mr. Rolfe, if he had since practised the operation on sucking colts. He told me that he has had two or three opportunities only, his employers preferring the old plan of waiting until the colt is one or two years old: but that in those few cases it succeeded as well as with mine.

Now, Sir, I would recommend the trial, and, if that be successful, the general adoption of this practice. It possesses, I think, many advantages. In the first place, it is reasonable to suppose, that, all the parts being smaller, not only is the pain very much lessened, but the danger is equally diminished. Again, should death ensue, the loss is very trifling compared with that of an animal which has had twelve or twenty-four months' keep, and in this case you would not lose the work of the mare.

These are important points; but there is another of less consequence that may be mentioned. We know that a great change is frequently effected in the temper and spirit of horses castrated at four or five years of age. Is it not reasonable to suppose that a similar change, although less in degree, may be the result of cutting them when twelve or twenty-four months' old?—but at a fortnight old little or no change will be effected, and I have no doubt it will be found that such animals will possess equal if not superior spirit to those cut at a later period, and that their necks will be light and handsome.

Although too late to try the plan this season at the age I should most recommend, viz. ten or twelve days, it may be practised on those foals which are still sucking; and I should be delighted to hear of its success. A few cases tried now, and reported in your periodical, would be some encouragement for its more frequent adoption in the spring. I may probably be advocating no novel practice, but it is new to this district; and not seeing it mentioned in the discussion previously alluded to, I conclude that it is rarely adopted.

I am, Sir, &c.

A MEMBER OF THE HARLESTON FARMERS' CLUB.

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[We avail ourselves of this intelligent letter to express the pleasure we feel at the formation of these Farmers' Clubs, and especially—  
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cially when, as in the present case, a library of circulation is appended to each. It will effect a gradual and a most beneficial change in the character of the agriculturist. It will much, and sometimes almost incalculably, benefit him in the views which it will give him of certain agricultural processes. His cattle cannot fail of being better selected and better managed, for he will understand the principles on which their health and utility depend; and, last, and in our estimation not least, it will bring him into connexion with the educated and well-informed veterinarian, from whom as a friend and a practitioner he will derive many a useful hint as to the general management of his stock, and to whom he may look with confidence when disease makes its appearance among them.

The suggestions of the "Member of the Harleston Farmers' Club" are well worthy of consideration. It is a new and important subject with regard to the colt and the calf. Our pages are freely open to any account of experiments.

The next article contains a singular history of a case of castration. It may not be inappropriately introduced here.—Y.]

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## CASTRATION OF A MULE, FOLLOWED BY DEATH.— SINGULAR ANOMALY OF ORGANIZATION.

*By M. OLIVIER.*

ON the 25th of April 1831, I castrated a very small mule, well-formed, about fifteen years old, and exceedingly vicious. I had much difficulty in grasping the testicles on account of their very small size, and the powerful retraction of the spermatic cords. If I had not been in the habit of seizing the two testicles at once, in order to make the incision on each of them, and press them from their common envelopes and those peculiar to each, I should not have been able to operate on the right testicle, or to place the clamps upon the cord, so great was the retraction. There is a real advantage in holding both testicles firmly in the left hand, and not to abandon the right one until the incisions are sufficiently large to permit the escape of both of them. By this simple proceeding we avoid the force which we must exercise on the left cord when the retraction of the testicle is strong, and it is almost always so in old and irascible animals, and especially mules.

I was much surprised to find the testicles strangely small in an animal so vigorous as this was. They were not larger than a nut, yet they were perfectly organized.

The animal was fed on mild and cooling food, and did not experi-

ence the slightest fever or illness. The clams were removed on the fourth day, and the cicatrization of the wounds, which were very small, was speedily effected.

It is said, that nothing in medical practice should astonish the observer; yet I, who had regarded as an anomaly the smallness of the testicles of this animal, who was a pattern of strength and of beauty, was, I acknowledge, astonished when, on the 24th of the next month, and twenty-nine days after the operation, of which there was no trace remaining, the owner came to request me to visit the animal, and I found two more testicles, well-formed, of the ordinary size, and the ascent and descent of which were sufficiently evident.

I proposed a second operation, to which the proprietor consented. On the following day, therefore, the 25th of May, a month after the first operation, a second one was practised without the slightest difficulty, the testes being of the ordinary size, and readily grasped.

A few moments after the operation I perceived some hemorrhage. Two hours afterwards it continued, and I began to be a little uneasy about it. I again cast the mule, and soon recognized that the bleeding came not from the right cord which we had just compressed, but from the testicles that had, a month before, been taken away, and one of the cords which had, probably, been scratched in putting on the clams at the second operation, and was now bleeding.

Having vainly attempted to apply a ligature to the vessel, I filled the scrotum with fine tow, and brought the lips of the wound together by means of several sutures, and thus, after having inflicted on the animal considerable pain, arrested the bleeding. Very considerable swelling soon appeared; the animal evidently suffered much, and his legs trembled under him both before and behind. The pulse was hard, the breathing short and interrupted with sighs. He was bled to the extent of six pounds; emollient cataplasms were applied over the lumbar region and the scrotum; and emollient and mucilaginous injections and drinks were administered.

*26th.*—The tumefaction of the right cord was considerably increased, and the frequency of the pulse and the tension and pain of the abdomen. The bleeding was repeated, and the same treatment continued.

*27th.*—Every bad symptom is continued and aggravated, and the flanks are agitated; the voiding of dung is exceedingly difficult; the urine high-coloured, and the appetite gone. Repeat the bleeding to five pounds, and continue the former treatment.

*28th.*—In addition to the former symptoms, the animal is continually stamping; the prepuce is enlarged, and the swelling is

extending along the belly; the wounds are black, and the suppuration foetid, and of a grey colour. They were frequently washed with chloride of lime. Mercurial frictions were employed twice in the day under the belly and at the flanks; setons were placed in the thighs, and blisters on the chest. A decoction of gentian, with the addition of camphor, was given.

29th.—The pulse could scarcely be felt; the respiration was short and laborious. The animal began to scrape the ground; he lay down and got up again immediately, looking mournfully at his flanks. This continued with very few and short remissions until two o'clock after midnight, when he died.

*Post-mortem examination six hours after death.*—The belly was much swollen, and there was a yellow infiltration of the abdominal parietes from the sheath to the sternum. The spermatic cords were black and thickened throughout their whole extent. The peritoneum was much inflamed, and also the epiploon. Red spots of various size and form were scattered upon the mesentery. There was an effusion of red-coloured fluid in the abdomen. The bladder was very much contracted, and of a deep-red colour within and without.

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[This is a singular case, and is very simply and scientifically told; yet we cannot agree with the author, much as we, in common with all who know him, respect his talent and the accuracy of his judgment. He tells us that the testicles which he removed were not larger than a nut, and yet were *perfectly organized*. The latter part of the sentence, from a man of M. Olivier's experience, is certainly startling. "The testicles were not larger than a nut, and yet were perfectly formed." It is a case which stands alone in the history of veterinary surgery, and, I believe that I may add, of human surgery too. It is the opinion, I believe, of every practitioner of experience, that the dartos muscle is occasionally subject to disease. It not only becomes to a considerable degree thickened, but tumours form upon it, which are sometimes attached to the proper substance of the testicle, and at other times depend from it in the form of little tumours projecting from the ring, and preventing the descent of the testicle. One of these existing on either side might be easily mistaken for a small testicle; and this is more likely to have been the case, even with so accurate an observer as M. Olivier, than that the mule should really have had four testes—a circumstance previously unheard of. If any of our readers can throw light on this intricate subject, we shall be really thankful.—Y.]

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## A CASE OF TETANUS CURED BY CASTRATION.

*By M. G. TISSERAND, M.V., Charnes sur Moselle.*

IN the month of August 1838, I saw a young horse, three years and a half old, in good condition, and designed as a carriage horse, that presented indubitable characters of essential and general tetanus. During eight days I employed on him the most energetic revulsive treatment, as sinapisms, frictions, vesicatories, setons, and drastic purgatives, but, in my opinion, he was growing worse every day. Not knowing what course to pursue, and considering the horse, in fact, as lost, I bethought me of a case which had been published of tetanus having been cured by castration. I went to the proprietor, and induced him to consent that he should be castrated by simple excision, followed by cauterization.

The operation was performed, and in a very few minutes the tetanic spasms begun very perceptibly to decrease in intensity. During the eight following days they continued to disappear until the cure was complete. While this was going on he received only the common care of a colt that had been castrated. He was then taken into work, and never afterwards exhibited any tetanic symptom.

I do not know whether cases of this kind have been numerous, but very few have been published. I therefore relate the simple fact, without venturing to assert that, under analogous circumstances, the result would be so favourable. It would be a most desirable thing for the experiment to be tried, as often as circumstances will permit, on horses of inferior value. Perhaps the revulsion produced by an operation so painful as that of castration would not be so empirical as some are disposed to imagine. At all events, in a desperate case, and the patient being valuable, the veterinary surgeon would be supported by the opinion and consent of the owner, and there would not be much more danger in the operation on a tetanic horse than on a violent one without disease. In the district in which M. Tisserand resides, however, the reputation of the veterinary surgeon would not be so much in danger, since custom, from time immemorial, has placed this operation in the hands of the gelder, who traverses every part of the country, and with whose supposed right neither the medical man nor the proprietor of the animal would dare to interfere.

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In the Editor's Lecture on Tetanus, reported in the eighth volume of *THE VETERINARIAN*, a lengthened and interesting account is given of the perfectly successful exhibition of this counter-irritant. On the fifteenth day after the operation the horse was dismissed cured.

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## ON THE DIVISION OF THE OS UTERI IN DIFFICULT PARTURITION IN THE COW.

*By Mr. P. DAVIE, Elgin, N. B.*

As a constant reader of your useful and impartially conducted periodical, I beg leave to send you a brief account of a case of the contraction of the os uteri which lately came under my notice; and, as it was one of a very peculiar nature, I feel assured that it will not be uninteresting to many of your readers.

On the 22d of August last, I was called to attend a cow belonging to Mrs. McAndrew, of Westfield. She had been very ill for a day and night before I saw her, and was thought to be in a dangerous state, as she was at her full time, and her throes severe and continuous, without any progress towards the expulsion of the calf being made. The vagina was greatly enlarged; and, to the surprise of those who had assisted previous to my arrival, they could find no opening through which to extract the calf. On examination, I could not introduce my finger through the os uteri. I told the owner that there was no chance of saving the cow but by an operation, as there was a stricture at the mouth of the womb, and she desired me to do what I thought proper. Accordingly I determined on putting to the test the operation performed and recommended by Mr. Horsburgh, V.S., of Dalkeith.

I commenced the operation, the cow being down and secured, and divided the first stricture or cartilaginous ring with little trouble. About two inches further I found I had another to divide, which I accomplished; and, at yet two inches beyond this, was a third ring. I then introduced a hook into the first divided ring, and pulled gently, which assisted to give me more room to operate, as, a little further, I found a fourth stricture.

I now, with the assistance of some men, got the cow on her legs, and, enlarging all my incisions in a direction upwards, and thus getting rid of the strictures, I then felt the fœtus. We now allowed the cow to lie down, the passage being sufficiently dilated, notwithstanding which, I had great difficulty in extracting a large dead calf. These operations gave no pain, but rather seemed to yield relief to the cow. No hemorrhage took place. We gave the cow a drink of luke-warm water and a little green food, which she took readily. On the next morning she was turned out to grass apparently in perfect health, and has since been sold for £12 sterling.

She was a fine young cow, and the above case occurred on her having her second calf. She had required assistance when she



had her first calf. Can any of your numerous and intelligent correspondents give us some information as to the cause and formation of these strictures?

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## A CASE OF SCARLATINA IN THE HORSE.

*By Mr. T. G. WEBB, Whitechapel.*

HAVING met with a case that is by no means common, I shall feel obliged by your inserting it in THE VETERINARIAN. I confess that I was at a loss to know what to call it, until, looking over THE VETERINARIAN of 1834, I saw a case related by Mr. Percivall which seemed very much to resemble mine.

*March 7th, 1840.*—My attention was requested to a brown gelding, five years old, that worked in the Chichester coach, the property of Mr. John Nelson, of Ludgate Hill. The horse was stopped from work this morning, not having eaten his corn, and having a discharge from the nose. I saw the patient about noon. His pulse was 75—the respiration quickened—the mouth hot—the Schneiderian membrane inflamed—and the extremities cold. I had him removed to a box, and bled to about 9lbs. I then gave a ball composed of aloes ʒss, calomel x grains, ant. tart. ʒij, nit. pot. ʒss.

When I saw him in the evening, he was standing in the exact place and position in which I left him at noon. I should say, by the appearance of his bed, that he had not moved an inch. His appearance is much the same, excepting that his lips are swollen and the glands enlarged. I stimulated the glands with soap liniment, put a rowel in his chest, and ordered that his food should consist of bran mashes.

*8th.*—He appears much the same, but, on looking at his nose, I was surprised to find the Schneiderian membrane covered with scarlet streaks. I applied a blister to his throat, and continued the medicine as before, adding of digitalis ʒss. He eats scarcely any thing, and has not the least inclination to move.

*9th.*—Pulse 65—the respiration better—no appetite. I gave two quarts of gruel by means of the horn. His lips were more swollen. He has a swelling on the neck about the size of a person's fist—his chest and abdomen were much enlarged, by the effusion that was taking place. The near hind leg and sheath were much swollen. With considerable difficulty I had him walked across the yard and back. The medicine was continued, with the addition of from half a drachm to a drachm of resin.

*10th.*—Pulse 58—respiration better—the enlargement or swellings on his neck and sides are much increased—his chest and body are swollen—he feeds a little better, but there is no inclination to

move. He is exercised morning and evening for about half an hour. I gave a ball containing aloes  $\mathfrak{z}\text{i}$ , calomel  $\times$  grains, resin  $\mathfrak{Z}\text{ss}$ , mixed with soft soap.

11th.—Pulse and respiration much the same, and I cannot perceive any difference in the swellings. He is more tucked up in the flanks: on whatever part of him I press my hand it appears to give him pain, and he eats but little. Continue the ball as before, and give exercise in the evening; and then let a ball be given of ginger  $\mathfrak{z}\text{ij}$ , gentian  $\mathfrak{z}\text{ij}$ , cantharides  $\text{iv}$  grains.

12th.—Appears a little better. Continue the medicine morning and evening as before. He has eaten some bran and oats to-day.

13th.—He walked to Aldgate, and remained there for the day. Continue the medicine as before.

14th and 15th.—He appears to be mending. I gave ginger  $\mathfrak{z}\text{iv}$ , gentian  $\mathfrak{z}\text{iv}$ , cantharides  $\text{vj}$  grains. Continue the exercise.

16th.—He was sent to Leyton, a distance of five miles. Six balls, as before, were also dispatched with him, one to be given every day, and the horse to be turned out for an hour or two, with an extra cloth on, when the weather was fine, and to have any thing he likes to eat.

I saw him on the 28th, when he was mending fast. He is turned out in the day, and taken into a large box at night. He is feeding well, and was sold with several others in May, when he appeared to be perfectly recovered.

## ON A VERMINOUS DISEASE IN POULTRY.

[The following letter is from a gentleman in Somersetshire, who spends many an, otherwise, idle hour in the rearing of chickens, and who, like most other breeders, has frequently suffered from an epidemic disease, which thins his poultry yard, and the progress of which he cannot arrest. The agent of mischief seems to be the same as that with which M. Blavette, in the paper which follows and illustrates this, had to contend. It is an interesting subject, and any communications would be thankfully received. If our country friends would send us a history of the cases which have occurred in their experience, and a few carcasses of those that have perished by this verminous malady, we should be exceedingly thankful. This would be still further widening our sphere of usefulness, and carrying out the legitimate purposes of our profession.—Y.]

Sir,—I TAKE the liberty of writing to you on the subject of a disease in chickens, and which I believe exists in pheasants and partridges. It commences by something like an attempt to cough,

and this increases until there is a constant gaping for breath in the chickens. For the most part, those that are fat and in high condition are the first attacked; but they are soon cut off, or rapidly dwindle away. On opening them, it is evident that they have been destroyed by worms collected in the windpipe, of a peculiar sort, and each, on careless examination, appearing to have two tails, the neck and head being so small and long, as scarcely, without the aid of a lens, to be distinguished from the other extremity.

They stick like leeches to the side of the windpipe, and when they get to a certain size they suffocate the chickens by congregating into a mass.

This disease usually commences from the third to the fifth week of their age.

I have lost hundreds since I commenced my keeping of poultry. In this year, out of one of my lots of nineteen, six only have been saved. When the feathers come upon the head and neck, they seem able to contend with the complaint. I have opened every one that died, and found precisely the same complaint in all, the number of worms varying from five to fourteen.

For eight years I have tried all manner of means, and different kinds of food, and every pretended remedy that I could hear of, but with variable and far from satisfactory success. I have done best with pills of sulphur, turpentine, and wheat flour; but these would only succeed when administered on the first appearance or first week of the disorder, and, even then, no satisfactory reliance could be placed on them.

I think that this subject demands the attention not only of the breeder of poultry, but of the sportsman and scientific man; for I am confident that it is the disease of which so many pheasants and partridges die annually.

I am, &c.

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## DESCRIPTION OF A VERMINOUS DISEASE AMONG FOWLS.

*By M. BLAVETTE, M.V., Bayeux.*

No arrangement of the maladies of our domestic fowls has hitherto found a place in the nosography of veterinary medicine; and yet it is a subject of very considerable interest. Our poultry are not only, like our quadrupeds, exposed to many epizootic diseases, more or less destructive, but they have maladies peculiar to themselves, which occasion great mortality among them, and,

too often, not only carry desolation into our menageries, but even depopulate entire farms.

I will state a few facts which I have observed relating to our domestic poultry; and that my little history may have some precision and order, I will narrate them as they occurred in the localities which I was then compelled to visit, and state the symptoms and the prophylactic and curative treatment which I adopted.

CASE I.—In May and June, 1804, I had to struggle with a *charbonneuse* epizootic which prevailed among the cattle of the commune of Saint Evroult de Notre-Dame-des-Bois. While that epidemic continued, or when it was drawing to a close, M. Scelles, a landed proprietor in that commune, lost in the space of six weeks nearly fifty fowls. Not knowing to what other cause to attribute this, and seeing that his poultry-yard was too likely to be quite depopulated, he thought that the malady of his fowls was of the same nature with that which destroyed the cattle of so many of his neighbours, and he requested me to examine into the case.

On the 17th of June, 1804, he shewed me five pullets, three of which had died on the 16th, and the other two on the morning of the day on which I arrived.

*Symptoms.*—The prevailing symptoms of these winged bipeds, as they were described to me, were, ceasing to lay—dulness—pale-ness of the crest—separating themselves from their companions—the little resistance against being caught—the wings hanging down, and even training on the ground. In some of them the feathers were not only roughened, but stood almost upright; these had a colliquative diarrhœa, accompanied by severe colicky pains, shewn by their frequent and sudden crouching, and as sudden rising again. They had also frequent tremblings, followed by quick and laborious breathing, and they refused food of every kind. These symptoms continued a longer or shorter period of time, until death terminated their sufferings. They were sometimes slow in their progress, but gradually became more evident in proportion as the disease was established.

*Post-mortem appearances.*—I first had them stripped entirely of their feathers. They were all very thin. I remarked in the first of them, that the crop, devoid of food, contained a small quantity of mucous and spumy matter, mixed with granules of sand and gravel. The lungs were of a pale colour, and presented nothing particularly worthy of notice. The liver was in a healthy state. The gizzard contained only a small quantity of gravel, and a very little food. In the intestine, at two inches and a half from the gizzard, I remarked an enlargement nearly three inches in length. On opening it, I drew out no fewer than twenty-seven worms, which were so heaped and twisted together, that they obstructed

the passage of the chyme, a quantity of which was found between this obstruction of the intestine and the gizzard. In the posterior part of the intestinal canal, almost at the anus, were ten other worms scattered here and there. The cloaca contained three. These worms were white, round, pointed at both extremities, and enlarged at one-third of their length. This enlargement contained a kind of receptacle for the intestines of these murderous guests. The worms were from two to three inches in length. The portion of intestine which contained them was engorged, and the mucous membrane ulcerated.

There was nothing remarkable in the second fowl, except that, between two and three inches from the gizzard, the intestine contained twenty-three of these worms, and nine in other parts of the intestinal canal.

The intestine of the third fowl contained thirty-two worms, three of which were in the cloaca.

That of the fourth fowl contained twenty-eight.

In the alimentary canal of the fifth were thirty-seven, including five in the cloaca.

The worms in the last four were in the same division of the intestines and convoluted in the same manner as in the first; and that portion of the intestine presented the same lesions. Neither the crop, the lungs, nor the abdominal viscera presented any thing remarkable.

It was now evidently my duty to examine whether other poultry yards in the same locality presented a similar disease. I found that there were several fowls which exhibited symptoms very much like those which I have described. I purchased three of the worst of them, and, after having killed and plucked them, I proceeded to a post-mortem examination of them. I found the same kind of worms, and in similar numbers, in their intestines. The crop and the thoracic and abdominal viscera presented nothing remarkable; I therefore did not doubt that the disease and mortality of the birds were attributable to the presence of these parasites contained in the intestinal canal.

CASE II.—Madame Cousin, of Epinay-Champlâtreux, had a yard well filled with poultry of every kind, as is generally the case in large farms in that country. She lost every year a great many of her fowls, and particularly of the pullets and turkeys. This mortality became, at length, so fearful, that she began very rapidly to lessen her stock. In the spring of 1806, however, the pest seemed to have reached its greatest height, and she lost three or four pullets or turkeys every day. Affrighted by this mortality, she determined to kill every fowl that exhibited the slightest trace of disease. This plentifully supplied her own table, and these half-

fatted birds were purchased by the middle classes; but the profits which she used to make were frightfully diminished. Being one day at her house in the spring of that year, she told me of these fearful losses, and engaged me to make some researches into their cause, and I at once began my task, as some poultry had been killed and plucked on that very morning.

1. I commenced with a young turkey. The crop contained a very small quantity of wheat and barley, but was otherwise healthy. Neither the lungs nor the liver presented any thing unusual. The gizzard contained the usual quantity of small stones, and a very small quantity of half-triturated food. At about three inches from the gizzard the intestine exhibited a very considerable enlargement, in which were thirty-seven worms, which, rolled and twisted together, formed an insuperable obstacle to the passage of the food. Between this enlargement and the anus were nineteen other worms, three of which were in the cloaca.

2. A pullet contained twenty-two of the long worms—*strongyli*—below the gizzard; eleven others in the lower part of the intestine, and three fluke worms in the duct of the liver; that viscus being considerably larger than usual.

3. In another pullet, the liver contained two flukes, and the enlargement beneath the gizzard twenty-five worms.

4. A young turkey had nineteen worms rolled together in the usual place in the intestine, thirteen in another part of the intestinal canal, and four in the cloaca.

5. A young cock, eighteen at the usual place, and fourteen in different parts of the digestive tube.

CASE III.—The scene is now shifted to Spain. The wife of one of the equerries of Joseph Napoleon employed herself in breeding and rearing poultry. In the spring of 1812, a sad mortality prevailed among her birds. She at first attributed it to wilful poisoning, and thought that deleterious substances had been thrown over the walls; but, after consultation with her husband, she requested me to examine the case. I was then veterinary superintendent of the stables of the king of Spain. I went there on the following morning, and examined two young pullets and a young turkey that had died in the preceding night.

1. In the first pullet I found, as in the cases in my own country, every thing right until I had passed the gizzard, when, at the usual place, twenty-eight worms presented themselves; six others were in the lower intestine, and one in the cloaca. The bird was very thin.

2. This pullet was in still worse condition. The liver was enlarged, and contained two flukes. In the small intestine were twenty-one worms, and fourteen in the lower portion of the canal.



3. The liver of the turkey contained one large fluke, and the lower part of the intestine thirty-three worms, which perfectly obstructed the alimentary canal. Seventeen were scattered in the lower portion of the intestine.

In order to satisfy Madame Brécy, I selected two fowls from among the rest, which I thought presented symptoms that indicated the existence of the worm. I killed and opened them, and found a collection of worms similar to the others.

CASE IV.—On the 28th of May 1823, I was sent for to a filly that was very ill. A very short time only elapsed before I was on the spot, but she had died, after strong convulsions. The owner wished to have her opened, which I did within an hour after her death. She was one year old, and very thin, although the herbage was abundant and of good quality. The stomach was about two-thirds filled with food, and contained numerous *œstri*. At a little less than a foot from the stomach was an enlargement equal in size to a man's arm, and nearly six inches in length. It contained sixty-eight worms—*strongyli*—folded and matted together. They formed a ball as large as a goose's egg, and obstructed the passage of the food. The mucous membrane of this portion of the intestine was thickened, reddened, and ulcerated. In following the course of the small intestines as far as the larger ones, I found many other masses, consisting of from ten to twenty of these worms rolled together, and some solitary ones were found. The larger intestines also contained a great quantity, mingled with the food. I likewise met with a very great number of the *crinons*, and of *ascarides*, in the arterial trunks and in the veins in the neighbourhood of the heart: all these worms were, to a greater or less degree, in motion. The filly had been dead about an hour, but was not yet cold. There was no other lesion either of the thoracic or abdominal viscera.

CASE V.—June 24, 1828, M. Levailly requested me to examine some fowls which were not in good health. His poultry-yard was occupied by almost every bird that was good and beautiful; but he annually lost a certain number through the influence of some disease which he could not understand, and in this year the destruction was far greater than at any former period.

When I arrived at his house I found two fowls dead, which I immediately examined. They were very thin, but neither the crop, nor the gizzard, nor the liver, nor the lungs, exhibited the least trace of disease; there was, however, the fatal enlargement of the intestine, and in both of them the accumulation of worms. Other worms scattered through the lower part of the intestinal canal.

M. Levailly then went into the poultry-yard and selected two fowls that were evidently not in good health. They were killed

and opened, with the same result, except that a fluke was found in the liver of one of them.

I could add many facts to these, but, perhaps, I have already been guilty of too much repetition. It is a murderous disease among poultry, and especially among young birds; but no one had developed its nature—the presence of these destructive worms. It usually is observed when the birds are between six and twelve months old. Birds of two or three years old are rarely its victims. I am also disposed to believe that the predisposing and determining causes of the presence of worms, whether in the digestive canal or in the liver, are the same in every class of animals.

*Prophylactic treatment.*—In order to accomplish the end which I proposed to myself in the different localities, I arranged in the first class those which appeared to me to be only slightly affected. The preservative treatment to which I submitted them was the following:—I took three pints of water, and put into it two handfuls of the leaves and tops of the common tansy, if the plant was green, or two ounces and a-half when it was dried, and boiled them until reduced to a quart. I then added a handful of the summer savory, green or dry. These were suffered to boil together during three or four minutes, when they were taken from the fire, covered closely over, and left to infuse during three quarters of an hour. The infusion was then strained through clean linen, two ounces of honey were added to it, and it was put aside for use.

When I was called upon to attend a poultry yard in which this verminous disease had appeared, I used to give to each of the young birds two spoonfuls of this *tisane* before they had the opportunity of getting at any food, and also before their supper. They likewise had a little increased allowance of wheat and barley, and care was taken that they had access only to pure water. This was continued during six or seven days, at the expiration of which time a marked change had taken place in their appetite and appearance. They were more eager for food, their feathers lay smoother, and every symptom of illness had vanished. They were then put with the old birds, and treated in the ordinary manner.

*Curative Treatment.*—The birds in which symptoms of the disease, more or less alarming, had appeared were treated in the following manner. I took of the roots of common brake (*Pteris aquilina*) dried, and of the leaves and summits of tansy (*Tanacetum vulgare*) also dried, three ounces, and boiled them in three pints of water, adding to the decoction a good handful of summer savory (*Satureja Hortensis*) dried. These were boiled five or six minutes, and then covered closely, and left to infuse during an hour, and afterwards strained, as before described, through linen. A sufficient quantity of barley

or rye flour to form a somewhat thick paste was then added to this liquor. Divide this into pills or pellets of an oblong shape, and keep them for use.

Each of the birds should be made to swallow, morning and night, three of these pellets of the usual size for fattening, and having been first dipped in honied water for the convenience of giving. They are also made to swallow, after every meal, a spoonful of the *tisane* which was given under the prophylactic treatment. The quantity of the paste was likewise a little increased every day. At the expiration of this period, the birds had generally recovered their pristine appetite and gaiety: the medicine was then omitted, and they returned to their companions.

During this treatment, some wheat corns were given them, which they were careless about at first, but soon began to fancy, and at length to swallow greedily. Their drink was pure water frequently changed.

These measures having completely answered in the localities in which I first tried them, I hesitated not to use them wherever my services were afterwards required; and I have the pleasure of stating that I rarely failed of perfect success.

*Recueil de Méd. Vét. Juin 1840.*

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[Our readers must have noticed the different location assigned to the parasites by these two writers. We have our own opinion; but we are now soliciting information from others.—Y.]

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## ON THE INFECTION OF THE CAVALRY HORSES IN QUIBERON BAY IN 1800.

Sir,—ALLOW me to remark on Mr. Mogford's notice of *Glanders*, in your August number.

Glanders and farcy were so prevalent in 1800, that few transports were free from infection. As those diseases were so rife in England at that period, and particularly amongst the cavalry and artillery horses, I am inclined to believe that some of those sent to Egypt were infected *before* embarkation, and that glanders shewed itself in the cavalry employed in the Quiberon expedition some time *after* embarkation, as in the case of the horse at Guernsey, alluded to by Mr. Mogford.

In confirmation that confinement in ships does not produce glanders, one transport to Quiberon, with thirty-five horses, lost not one by glanders, although thirteen weeks at sea; and if foul stables produce the disease, those on the continent would never be with-

out it. Horses standing at picquet, with rain falling on their backs for a few days, will produce forty cases of glanders, where foul stables will not produce one.

Your's, &c.

AN OLD ARTILLERY OFFICER.

## THE VETERINARIAN, OCTOBER 1, 1840.

*Ne quid falsi dicere audeat, ne quid veri non audeat.*—CICERO.

It will be seen in an advertisement on our cover, that—although no communication, and notwithstanding such had been faithfully promised, has been received by the chairman of the Deputation that waited on the Governors of the Royal Veterinary College on the 10th of last June—two of the most important questions at issue between the Governors of the College and the Delegates of the majority of the veterinary profession have, with or without the advice of the Medical Examining Committee, been decided. There is to be but one Professor of Veterinary Pathology, Mr. Sewell,—and the initiatory fee is to remain at 20 guineas. There is, designedly or undesignedly, some mystery or want of courtesy here.

The Committee of Delegates deeply feel this; and the propriety of calling a meeting of those who signed the Memorial, not only to consider what measures should be adopted in the present state of the profession, but to elect a standing Committee to watch over the interests of the profession, and to adopt such measures as circumstances may require.

In conformity with this, the Editor of THE VETERINARIAN has been requested to announce, that a meeting of the Memorialists will be held at the Imperial Hotel, Covent Garden, on Tuesday the 3d of November, at 12 o'clock. Every one whose name is affixed to that document, or who wishes to be there enrolled, is entreated to be present. The introductory lecture of the Professor on the preceding day, and the oration and dinner in the evening, may offer some additional inducement.

A friend will see that his request has been complied with. It was, indeed, an interesting subject, and it has been well and scientifically treated.

The Editor is fully aware of, and deeply regrets the change which has taken place in the proportions and character of the two grand divisions of our periodical in some of the late numbers, and he has taken such measures as will in future prevent its recurrence. He confesses that some matter has found its way into the reports of the meetings of the Association which might have been better confined to that most valuable period of time, "the students' night;" yet, on the other hand, he will point with pride and exultation to many of the Essays and the debates which the records of this institution during the last session contain. They will bear to be placed in competition with the proceedings of any society, however noble its object, however talented its members. The practitioners have it in their power to remedy the present evil, and, at all events, they who were indebted so much to a similar association in their younger days should not be the first to complain.

The protracted illness of the Editor in the early part of the session has principally contributed to cause the heaping together of so much matter now. It shall not be his fault if the noble *nights* of the first and second session of the Association do not permanently return.

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## REVIEW.

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Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

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### A MEMOIR AND CLINICAL OBSERVATIONS ON TRAUMATIC GANGRENE. *By* M. RENAULT.

BY "TRAUMATIC GANGRENE," this excellent philosopher means the mortification or death of a part connected with, or the consequence of a wound; from *τραυμα*, a wound, and *γράω*, I devour. From our inability to confine or close many wounds in our patients, and especially to protect them from the access of air, we

have far more to do with gangrene than the human surgeon, and are compelled to have recourse to more decisive measures: this is, consequently, an interesting subject to us.

The work of M. Renault has been reviewed by M. H. Bouley, Assistant Professor at the Veterinary School of Alfort, and that review has been so fairly and philosophically executed, that we shall do little more than transcribe his valuable observations. We read it with much delight, as equally creditable to the Author and the Reviewer.

“Of all the physical agents,” says M. Bouley, “which exercise their influence on organized bodies, the atmospheric air is one of those whose mode of action ought to be most carefully studied. The affinity of this fluid for the organic elements is so powerful that it can—a part of the body being deprived of its protecting envelope—produce a separation of these elements and cause them to enter into new combinations injurious to life or incompatible with it.

“In order better to comprehend the remarkable influence which the air exercises on a living part exposed to its agency, and the importance of the study of this agent—if it were only with reference to surgical practice—I will relate, in a few words, the phenomena which take place in a wound from the moment of its infliction.

“When a solution of continuity is effected in a tissue, the blood flows from the wounded vessels in a large stream or small jet, according to the diameter of these vessels. After a while it gradually ceases to escape, either spontaneously or in consequence of the means to which we have had recourse in order to arrest the effusion. The part which is wounded becomes painful. It is not organized to support the contact of these exterior agents with impunity. This pain is almost always accompanied by an increase of temperature in the injured part. At the end of a few hours the lips of the wound begin to swell, and from the surface of the wound, and between the lips of it, a limpid transparent liquid is secreted, which we call *coagulable*, or *plastic lymph*. This is the product of a nutritive secretion, which is rendered more active where it is to effect a reparation of the injured parts, and it possesses the germ of life; but in order that this germ may develop itself, it is necessary that the plastic fluid should be submitted to a higher temperature than usual, and to resist or be withdrawn from the affinities in the atmospheric air. Thus the first thing, in order to obtain the cicatrization of a wound by the first intention, is that the lips of the solution of continuity should be brought into perfect contact with each other, and that, by means of bandages impermeable to the atmosphere, the tissues may be withdrawn from its influence.



“This is the first degree of influence on wounds which we attribute to the atmospheric air—namely, to become an obstacle to their union by the first intention.

“When the cicatrization by the immediate adhesion cannot be obtained, the cellular tissue which enters into the composition of the exposed parts becomes modified. It is injected and vascular, and covered with granulations or minute buds, which, uniting together, form a protecting membrane between which is deposited and organized, sheltered from contact with the air, that reparatory fluid the coagulable lymph. Under the influence of the affinities of atmospheric air, the *primitive* adhesion of the lips of a wound will never take place.

“If among our domestic animals, and especially the herbivorous ones, the cure of these lesions is often so troublesome, it is because we cannot by means of bandages maintain the lips of the wound in perfect apposition. Where we can effect this, or approach to it, there is no great difficulty in accomplishing a cure.

“The coagulable lymph, however, is not the only agent in the reparation of wounded parts. The blood, when it is no longer in circulation, or when it overflows its vessels, preserves its plastic power, and serves as the nucleus for fresh organic composition; but with it, as well as the coagulable lymph, this property exists only so long as it is kept from the influence of the air. Thus, when blood is enclosed between the lips of a wound immediately and perfectly brought into contact with each other, it unites with the coagulable lymph in accomplishing their primitive adhesion; but if the lips of the wound are not in perfect apposition, the air, penetrating into the interior of the wound and coming in contact with the blood, changes and decomposes it.

“In this case one of two things happens, either blood, in a state of putrid decomposition more or less advanced, is eliminated by the purulent secretion of the vascular membrane which is formed on the surface of the wound, or it modifies, in a peculiar manner, the tissues with which it is in contact, and becomes the especial point of various remarkable phenomena. The modifications and phenomena which result from the contact of the blood, changed by the action of the air, with the exposed tissues, constitute the principal object of M. Renault's work.

“I may, perhaps, be permitted to enter into a few details, illustrating the importance of this point of surgery.

“I have spoken of the changes which take place in the interior of the tissues whose continuity was of so much importance, and of the beautiful proceedings of nature to restore that continuity; but in some circumstances the phenomena are very different. A wound is effected—the region in which it occurs becomes considerably

tumefied, hot and painful about the third or fourth day after the operation or accident. That swelling makes rapid progress, and is accompanied by œdema and emphysema at its circumference, which prevents or arrests all suppuration—gives birth to a succession of phenomena, which generally become more and more alarming, and which will cause the death of the animal, if not opposed in time by proper treatment.

“What is the cause of these phenomena so extraordinary? Where this inverse march to the ordinary progress of wounds well treated? M. Renault has given us the proper solution to these questions.

It results, according to him, from the influence which the air exercises on the blood deposited on the surface of the wounds. The air by its affinities determines the decomposition and the putrid fermentation of the blood or animal matter contained in the wound. The products of this fermentation impregnate the membrane with which they come in contact, and destroy the nervous influence on these tissues. They themselves, macerated and broken down, participate without resistance in the putrid change, and act on the neighbouring tissues in the same manner that they have been acted upon, and thus the evil rapidly spreads.

The influence of these putrid products is at first altogether local; but the vessels which traverse the tissues impregnated with the fluids resulting from decomposition are not slow in imbibing them, and soon, this vitiated matter mingles and circulates with the blood, and exercises its deleterious influence over the whole frame. Such is the cause of traumatic gangrene, and of the general infection which ensues.”

Such is the theory which M. Renault advocates in his memoir, and which he supports by the narration of numerous cases. These he divides into three classes. The first contains the symptoms, progress, duration, and termination of gangrene. The second contains the history of numerous cases in which gangrene does not appear until after the opening of a cavity containing effused blood, and shewing that the intimate connexion between the action of the air, and the phenomena of gangrene, truly assume, indeed, the relation of cause and effect. The third illustrates the etiology of gangrene by the results of curative treatment. In the human being, wounds often cicature by the first intention, and it is always easy, by appropriate bandages, to prevent the access of air to the wound. In the surgical treatment of our larger domestic animals, the healing by the first intention is rare, and the wound often and long remains exposed to the influence of the air. This is the reason why gangrene in the human being is comparatively seldom produced by this cause, and why its character is also essentially different.

## THE POISONING OF A COW BY HYOSCYAMUS NIGER, OR BLACK HENBANE.

[Extracted from a communication by M. Creuzel to the "Propagation Agricole," Mai 1840.]

IN the commencement of the spring of the last year a cow going from her stable to drink found in the yard some green plants which she greedily ate. It was a mixture of mallows and black henbane. Two hours after her return to the stable the cowherd saw her suddenly fall and abandon herself to very strange and violent struggles. Thinking that it was an attack of epilepsy, he sent for me, and I was with her in about twenty minutes.

She had been taken out of the cowhouse on account of her strange and dangerous struggles. The pupils of the eyes were very much dilated—the conjunctiva was injected, and of a red violet colour—the carotids beat violently, and their pulsations could be plainly seen. The cow resting on her fore legs was making the most violent efforts to raise herself, and which she at length effected with very great difficulty. She then attempted to move forward, uttering the most fearful lowings; but she soon fell again, dashing her head against the ground. To this general convulsions succeeded, the respiration became loud and convulsive—a thick spume proceeded from her mouth, and she began to purge violently. I had never before seen so strange and so alarming a series of symptoms.

Being interrogated as to the cause of all this, the cowherd told me that he knew not to what to attribute it. He only recollected that the cow, in passing through the yard, had devoured certain herbs, which the other inhabitants of the dairy had left untouched. "It even seemed," said he, "that when the other cows accidentally smelled them they turned away as if disgusted with their odour."

I immediately went to examine these fearful productions, and found that she had been eating some roots of black henbane. It was probable that the poison had been ruminated and had passed into the abomasum, since two hours elapsed before these alarming symptoms began to appear. It was in this organ that it was developing its deleterious agency, stimulating the heart and the brain, and giving rise to all the morbid symptoms which we had seen. The congestion of the brain, which appeared to me to be the cause of these convulsions and of the palsy of the hind quarters, was rapidly increasing, and the animal was evidently in the most imminent danger.

I opened the coccygeal artery, about four inches from the anus, and the blood flowed immediately in a little stream. It was pre-

cisely of the colour of the fluid which escaped from a dunghill. By little and little, however, it was discharged with more force, and in a larger stream, and then resumed its natural colour. During the bleeding I made the animal swallow eight or ten pounds of cold water slightly acidulated.

In proportion as the blood ran the convulsions diminished—the pupils contracted—the carotids beat with less force, and, at length, the cow got up. I had abstracted about ten pounds of blood when the convulsions entirely ceased and the free motion of the extremities was re-established.

I now arrested the bleeding, and the cow was led back to the stable. She had recovered the sense of sight—her step was firmer, and, a little while afterwards, she manifested a desire to eat: nevertheless, fearing the subsequent inflammation of the stomach, or of some other viscus, I put her on a restricted diet for two days, at the expiration of which time she appeared to be perfectly recovered.

This fact, the only one which I have of the kind, seems to possess some interest, from the manner in which the henbane acted on the cow. It exerts no deleterious effect so long as it is in the paunch; it is only after rumination that the symptoms of empoisonment are manifested. The cowherd assured me that, only a few minutes before she fell in the stable, she was ruminating, and nothing appeared to be the matter with her. It is only in the abomasum that the active principle of the henbane finds itself in circumstances favourable to the development of its power. Its influence is most remarkable on the heart and the brain. We have seen the activity of the circulation towards the superior regions, and its feebleness towards the posterior ones. The pulsations of the coccygean artery were almost imperceptible, and even, on opening that vessel, the blood escaped in an almost thread-like stream, and its colour was essentially changed. On the other hand, the paralysis of the posterior limbs, and the convulsions that were observed, were they the result of compression of the brain, or of immediate or sympathetic irritation? The first seems to me the most probable, since one arterial bleeding of ten pounds, and some pints of cooling fluid introduced into the abomasum, made the whole train of morbid phenomena vanish as by enchantment.

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# PARAPHYMOSIS IN A HORSE, OCCASIONED BY A BLOW IN THE PERINEUM FROM THE HORNS OF A COW.

*By M. JOUANAUD, M.V.*

ON the 1st of August 1837, I saw a horse which a cow had wounded in the perineum by a blow with her horns. My first care was to assure myself of the direction and depth of the wound. It was an inch and a half in depth, its direction oblique from above, below, and a little to the right of the raphe. A pledget of tow dipped in the tincture of aloes was introduced into the wound.

2d.—He is out of spirits, will not feed, the pulse is strong and frequent, he urines frequently and without difficulty, but the penis is hanging out of the sheath. Bleed to five pounds and give gruel.

3d.—The horse is not in so much pain, but the penis still hangs completely out of the sheath. Employ a suspensory bandage.

4th and 5th.—There is some swelling of the penis. Emollient lotions.

6th.—Very little change. Continue treatment.

7th.—The swelling of the penis is increased, and some laudable pus runs from the wound. Continue the suspensory bandage, and use emollient cataplasms. Introduce into the sheath tow covered with simple digestive ointment.

8th.—No change.

9th.—The engorgement of the penis is greater—it is as much stiffened as in the natural erection—it is turned backwards, and the urine passes with difficulty. Several longitudinal scarifications were made, from which a sero-sanguineous fluid was discharged. Abstract four pounds of blood, and continue the emollient cataplasms often renewed.

10th.—The swelling is less considerable. Make other incisions.

11th.—The penis is now reduced to its natural size, but still remains obtruded from the sheath.

12th.—It has for the first time retracted into the sheath, and the animal urines with ease—the suppuration is abundant, and of a good character. Discontinue the cataplasms and the suspensory bandage, but apply the simple digestive ointment to the wound.

15th.—The depth of the wound has very considerably diminished.

20th.—It has quite healed, and the horse has returned to his usual work.

*Journ. de Vét. du Midi, Mai 1840.*

## A CASE OF PARAPHYMOSIS IN A BULL.

*By M. JOURNAUD, M.V.*

ON the 22d of August, 1839, I attended on a bull with his penis considerably swollen, and hanging out of the sheath. He was at pasture with the cows, and this had happened from the rubbing of the penis against the vulva and thighs of the cows which he was endeavouring to serve. He was evidently suffering considerable pain. The penis was completely out of the sheath, cold and swelled, and turned a little upwards.

Four slight longitudinal incisions were effected on the swelling. Emollient cataplasms were applied, and the penis was suspended by a bandage under the belly.

23*d.*—He is better—the head of the penis is more flaccid, and the animal urines with little difficulty. Cataplasms, and the suspensory bandage as before. Give an emollient diuretic drink.

22*d.*—The penis is again received into the sheath, but there is some slight engorgement of the parts. Emollient lotions.

26*th.*—The swelling of the sheath has disappeared, and the bull has returned to his natural food and work.

*Journ. des Vét. du Médi. Mai 1840.*

## MISCELLANEA.

## SPORTING IN INDIA.

THE hounds received from England are sure and eager, but the climate soon destroys them. For this reason they are mostly purchased to breed from, and are kept from the field for the first season; after which, the original intention being fulfilled, and the dogs themselves better seasoned, they are blended with the pack, where they rarely fail to distinguish themselves.

It is surprising to see what a mortality is often prevalent among hounds. The chases are in general very short, rarely exceeding seven or eight miles, and the pack being often at fault, or crossed by other game, the burst is never so animated as in this climate, where the scent lies so well, and game is by no means so abundant. The mortality, therefore, is not to be imputed to excess of fatigue, especially as, on account of the scent breaking up shortly after the sun's appearance, the dogs are seldom out more than three hours in a day, and are rarely hunted more than twice or thrice in a week.

The great expense attendant on the original purchase, and on the keeping of a regular supply for renovation, added to the consequent trouble and vexation, and the chance of a gentleman being removed to some other station, as well as the very great losses occasioned by the unhealthiness of the climate, all operate as insuperable obstacles to the keeping of hounds with any pleasure or effect, and are the cause of there being so few of them in India.



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ON INFLAMMATION OF THE UDDER IN THE COW.

*By M. JEAN PIERRE LECOQ, M.V., Bayeux.*

THE mammary glands of the cow form an unique mass, composed of two symmetrical parts, simply united to one another by a cellular tissue, lax and very abundant. These are divided into two other portions, which pathological anatomy demonstrates in the clearest manner, and which are connected together by a compact laminous tissue. From each of these glands many tubes proceed, which unite to form a common excretory canal opening outwardly by means of an elongated mammary body called a teat. At the back of each of these larger teats is generally a small one; but which, as it never furnishes milk, nor is the seat of any peculiar affection, we shall pass over in silence.

These organs, destined by nature to secrete the milk necessary for the nourishment of the little being to whom the cow has given birth, become the seat, at the period of parturition, of an organic process for the secretion of milk, and more active than at any other period of lactation; therefore it is that, at the approach of this period, they are more subject to inflammatory affections than at any other time: and any cause which, at another period, would produce only a slight degree of irritation, now almost invariably gives rise to considerable inflammation.

The cows most apt to contract this disease are those which have large udders—in whom the secretion of milk is most abundant, and who are, consequently, the best milkers. The season of the year, and the locality of the animal, seem to have little influence on the disease; whether they are at liberty in the pasture, or inclosed in the cow-house.

*Mammitis*, like all other inflammations, may terminate in resolution, suppuration, induration, or gangrene. We, perhaps, should add to this a cancerous termination; but it is of so rare occurrence, that I shall not take it into consideration in this memoir.

*Resolution.*—This is the only termination that can be considered as favourable, and which the practitioner should always endeavour to obtain, because it leaves no trace behind it. The disease which may terminate by resolution does not always follow the same course, nor take on the same serious character. It sometimes assumes a mild appearance, at other times it takes a more serious course. The former of these occurs in young cattle, at the first time of their calving. The swelling of the teats in these youngsters, is the result of a greater or less degree of local excitation from the particular labour on which they were employed at the time of parturition, or to which they had not been accustomed. When the swelling ensues, it is sometimes partial, but it is oftener more extensive, and without materially altering the colour of the skin. The teat is tender, somewhat enlarged, shining, and occasionally a little red. It is not rare to see a yielding clammy enlargement extending round the teat, and under the belly. This affection is designated by the common name of *rancle*, and has its seat in the subcutaneous cellular tissue.

Under the next stage the disease is more intense. The swelling may even extend as far as the inguinal region, and, anteriorly, to the abdomen, and even beyond. The teats increase in size, and become more painful, hard, and hot—they assume a red colour, and the tension is at this place very great. In exploring the bag, we find certain nodes, attributable to the enlargement of corresponding lobules of the mamillary gland, and to the inflammation of the lacteal tubes. The inflammatory tendency may be carried to such an extent as to produce a general reaction, recognizable by fever of considerable intensity—loss of spirits and strength—injection of the mucous membranes—suspension of appetite and cessation of rumination. The secretion of milk is much diminished, or has almost ceased—has become of a bad quality, serous, sometimes curdled, or even mixed with grumous blood. The drawing of the milk is exceedingly painful to the animal. Often, however, only one side of the udder is affected at first; but it is very rare that the engorgement does not attack the other before the disease has run its course.

Under the first form the disease generally yields to local treatment; and it is seldom that there is occasion for internal medicine. The other case is more serious; but the common antiphlogistic measures promptly and diligently employed will, in a majority of cases, produce a quick diminution of the symptoms, and effect a radical cure in the course of ten or fifteen days.

*Suppuration.*—The means of promoting resolution having been neglected, the next most frequent mode of termination is by suppuration. This process developes itself either in the cellular tissue

which surrounds the glandular mass, or in that which penetrates into and envelopes the lobules and granulations of this organ, or the surface of the mucous membrane which lines the lactiferous canals. In certain cases it appears in these three varieties at the same time.

We may form the prognosis that mammitis will terminate in suppuration if it is accompanied by the following symptoms; viz. considerable engorgement, partial or general, of the teat, accompanied by hardness, heat, and evident pain in this organ—the skin dry, red, and glossy—the teats enlarged, lengthened, and painful on the slightest touch—the milk of a bad character, little in quantity, serous, of a dirty white colour, and generally mingled with a great quantity of clots of a milky or bloody character, or, sometimes, consisting of pure blood. When the inflammation is very intense, nothing can be obtained from the teats but a serous liquid of a red colour. The sound side of the udder, if one does remain sound, yields only a small quantity of milk, and that often very much deteriorated in quality.

When the disease is arrived at this point, a general reaction of the system is almost always manifest. The pulse has a febrile character—the mouth is clammy and hot—the muzzle dry—the mucous membrane injected—the coat roughened—the alvine dejections hard and glossy, or, perhaps, a frequent fœtid diarrhœa—the urine small in quantity and high-coloured—the appetite, rumination, and secretion of milk very much diminished—a sadness of the countenance—the flanks tucked up—the animal rarely lying down, except compelled to do so by absolute fatigue, and, even then, rising again almost immediately.

When the inflammation is terminating by a mucous discharge from the lactiferous canals, it will be advisable carefully to examine the udder, particularly towards its base. There will be almost invariably found, more or less deep in it, a cord or nodes, the result of the engorgement of the excretory canals.

Other phenomena are not slow in succeeding to these. The matter furnished by the lactiferous canals becomes purulent, thick, and curdled—the surface of the teat is hardened in one or more points—the redness becomes more intense, or often assumes a livid colour. The careful observer will then not be long in recognizing a spot, more or less extended, in which the udder is beginning to soften, and fluctuation may be detected beneath it. This, being left alone, opens of its own accord, if the medical attendant should have foolishly neglected to puncture it with a lancet. There ordinarily issues from this opening a great quantity of pus of a strong and disagreeable odour, that was contained in reservoirs more or less deep. Sometimes the mammillary gland is almost denuded of its

cellular texture in different parts. In this case a long suppurative process will be established, and fistulæ will be formed, resulting from the ramollissement of some of the inflamed points. These will produce new reservoirs of purulent matter, the healing of which it will be difficult to effect.

At this period of the affection the general and constitutional phenomena will usually disappear. The appetite and rumination will return—the tension and pain of the udder will diminish—the supuration from the teats will become less abundant, and the secretion of milk will by degrees reappear.

I would here repeat—what I have already stated—that phlegmonous inflammation of the udder may exist in conjunction with catarrhal inflammation.

The lesions which may follow this mode of termination of the disease, when the inflammation has been very acute, are callosities or nodes in the substance of the gland or on its surface, or engorgement of the lactiferous canals.

When these lesions exist, the secretion of milk is considerably diminished in the diseased gland, and sometimes it is entirely suppressed, or does not reappear until the next calving: but, oftener, if a complete resolution has not been effected during the course of the suckling or milking, it is much to be feared that the new pregnancy will only lead to complete loss of the udder.

*Induration.*—This mode of termination is, unhappily, that which most commonly follows supuration. It pursues nearly the same course as the preceding one, except that there is less intensity at its commencement.

The symptoms which lead us to fear the termination by induration of the gland, partial or general, or by obstruction of the excretory canals, are the exhalation of serosity of a red colour, and of a small quantity, by means of these canals; or oftener, the total suppression of all exhalation, accompanied by intense inflammation of the body of the teat.

*Gangrene.*—This is a termination the most of all to be feared; for not only it involves inevitably the destruction of a portion of the organs which it attacks, but it sometimes occasions the death of the animal.

The symptoms which announce gangrene differ from the preceding ones only by their greater intensity. The general phenomena are more decidedly marked—there is extreme depression of strength and spirits, and great heaving at the flanks. Soon we perceive on the body of the udder a surface of greater or less extent, and of an obscure red or livid colour. If this surface is examined, a fluctuation is distinctly perceived beneath. The fluid which runs from it, when it is suffered to break spontaneously or

an opening is made into it with an instrument, is a liquid pus of an infectious odour. On introducing a finger into the cavity, the gland is found denuded of cellular tissue, and, as it were, detached from the surrounding parts. It seems to be almost dry, and resembles in its appearance, to a certain point, rotten wood. It sometimes happens that only one or two of the lobes of the udder are attacked by gangrene.

Occasionally the surface of the body of the udder becoming gangrenous, presents a deep red colour, enclosed by an areolar circle. At a later period, that surface becomes black or livid; it is at first depressed, and then dry, after which an eliminatory inflammation detaches, by little and little, this cutaneous eschar from the living parts beneath, and leaves exposed the gland that is in relation with it, and which partakes equally of the gangrene. Then follow, by little and little, the peculiarities of the preceding division: or, finally, the gangrene knows no bounds—it gains on the neighbouring parts—the symptoms become more and more frightful—the restlessness and the debility increase—the pulse is small and rapid and hard, and finishes by eluding every effort to detect it—cold sweats, and partial tremors manifest themselves from the elbows to the flanks—a spasmodic heaving at the flanks follows, and, shortly after this, the animal dies.

Death may be the consequence of gangrene in a manner less prompt and direct, when, after the fall of the eschars, there is an exceedingly abundant suppuration more or less clear or foetid, and in consequence of which the animal loses flesh and strength—is attacked by marasmus, and speedily dies.

When we obtain a more fortunate state of things, and the gangrene is localized, and the eschar detaches itself from the living parts, suppuration establishes itself all around; but it preserves, until the fall of the gangrenous portion, an odour absolutely insupportable, which it imprints on the wreck of the mamillary gland involved with it. Little by little this gangrenous portion becomes more and more decomposed—the suppuration increases between it and the living tissues which surround it, and soon, by means of the fingers, we are enabled to tear out the gland by small portions, to isolate the vessels which penetrate it, and finally to remove it.

These bloodvessels, which are no other than the mamillary arteries, are two in number. When dissected, they resemble a tree that has its trunk placed superiorly and the branches inferiorly. Their colour is of a vivid red, and their size, towards the trunk, at least an inch in diameter. Their walls are considerably thickened, dependent on the state of the two exterior membranes, which are confounded together, and semi-transparent. The internal mem-

brane does not appear to be altered, nor is its caliber sensibly increased.

When the suppuration is well established, the inflammation progressively diminishes, the general symptoms disappear, and the health of the animal is gradually restored; but the udder rarely yields any milk, and the animal is only valuable for the purposes of fattening.

*Treatment.*—At the commencement of the disease, if there is not much enlargement or tenderness, or change of colour of the integument, or if there is only an œdematous enlargement, although, perhaps, of some little size, the most simple means, such as mild diet, and even that restricted in its quantity, and emollient lotions, will suffice to cause the disappearance of these symptoms. Some practitioners advise, in order to abate the inflammation, the use of mild discutients, as the aqua-végéto mineral, with a slight additional quantity of the lead—vinegar—a weak solution of sulphate of iron, or the white of an egg beaten up with a small quantity of the sulphate of albumen and potash. These means are simple and rational, and I have often derived benefit from the use of them; nevertheless, I must observe, that they should not be too long continued, and if, during the employment of them, the inflammation should increase, it will be necessary promptly to substitute in the room of them some emollient lotion.

It is important in the treatment of this disease not to leave any milk in the teats. The animal should be milked several times in the course of the day, but as gently as possible. Dry frictions on the surface of the body will be very useful, as re-establishing the functions of the skin. This simple treatment will ordinarily suffice, in cases of slight inflammation, to arrest the progress of the swelling, and to restore the udder to a healthy state.

If the inflammatory engorgement, however, continues and increases, and manifests itself by tension and redness of the skin, and heat and tenderness of the part, the case is more serious, and demands the employment of more active general antiphlogistic treatment. One or more bleedings should be practised from the subcutaneous abdominal veins. Some apply a great number of leeches on the part. Vapour baths, and warm and repeated lotions on the affected organ, should be had recourse to. A soft and quilted mattress should be used, in order to contain and suspend the udder, and thus prevent a great deal of pain, and increase of bulk, too, in the organ. If the alimentary canal does not partake of the inflammation, some purgative or diuretic medicine may be used with advantage, as the nitrate of potash, the sulphate of soda and of potash, &c.

If the inflammation still continues to increase, it will almost al-



ways terminate in suppuration. I have already described the symptoms which indicate the approach of this result. In this case, and if the animal is in the stable, the measures already recommended must be continued, or a decoction of linseed meal and white poppies must be prepared, and kept in contact with the part by means of the suspensory contrivance.

If the cow is at pasture, ointments, such as the *unguentum populeum*\* must be employed.

The collection of purulent matter being certainly recognized, it must be opened by means of a bistoury, and the emollient applications continued until the disappearance of the inflammatory phenomena. The cyst or reservoir which contained the purulent matter should be washed with a decoction of marsh-mallow roots, and later, when the irritation is somewhat subdued, light discutients, as warm red wine, or tincture of aloes, somewhat lowered with water, may be resorted to.

When the mucous surfaces of the excretory canals participate in the inflammation, the same means are indicated. The veterinary surgeon should most particularly take care that no pus is permitted to remain in these ducts. A gentle pressure of them should occasionally be resorted to, avoiding as much as possible giving pain to the patient.

If the swelling of the teats threatens to terminate in induration after the employment of the antiphlogistic treatment, general and local, which has been recommended, and the inflammatory phenomena have lost much of their character, recourse must be had to resolvents. The camphorated ammoniacal liniment—the mixture of equal parts of the *unguentum populeum* and the mercurial ointment of double strength, and the ointment of hydriodate of potash, are the means to which I have generally had recourse with success.

The most fatal termination being that by gangrene, the attention of the veterinary surgeon should be most anxiously employed in endeavouring to arrest its progress. For that he will employ the antiphlogistic remedies already recommended. Scarifications and cauterization are excellent means, but they do not always succeed. If the areolar circle is formed, the separation of the eschar may be facilitated by means of emollient cataplasms and the *unguentum populeum*.

The fall of the eschar having taken place, the subjacent mamillary gland is exposed, and almost always found to be sphacelated.

\* This is an ointment very much in request among the French practitioners, as an emollient and anodyne. It is composed of six parts of the dried buds of the black poplar or fifteen of the green poplar, two parts each of the fresh leaves of the poppy, henbane, burdock, and belladonna, ten of the black nightshade, and thirty-six parts of lard.

An infectious and abundant suppuration exists around it. The wound should be cleansed and dressed with warm wine, or with diluted tincture of aloes, or a solution of the chloruret of the oxide of sodium one part to twenty of common water, or, perhaps, the chloruret will be replaced by the oxide of calcium. After having used this dressing a few days, the veterinary surgeon will hasten to extract, if possible, the gangrenous gland. In effecting this, he will probably tear it off by little portions with his fingers, until he has entirely removed it, carefully avoiding to wound any of the living arterial vessels. When he has completely removed the gland, he will pass a ligature round these vessels, and, as a measure of precaution, seeing the fragility of their walls, and the ease with which they are torn, he will place his knot superior to the spot on which he has been working. The ligature should be of silk, sufficiently large and strong not to cut or to give way. If he should afterwards think proper to cut through the vessel, he must a little tighten the ligature above. The extremity of the vessel should be cauterized, if this be at all necessary, with the olive-shaped cautery, the extremity of it being introduced into the vessel. A little hair burnt in the act of cauterization will have some effect in plugging up the passage and preventing the flow of blood.

The veterinary surgeon cannot be too strongly warned to avoid the foolish habit—a stronger term might be used—of introducing sounds and needles into the teats, in order to find out whether there is any obstruction. The fingers will sufficiently indicate this; and if obstruction is discovered or suspected, the practitioner should be cautious not to pass his instrument higher than is absolutely necessary. This proceeding is the more dangerous, because it irritates a surface already highly inflamed. It can rarely, or almost never, be useful, for the stoppage of the milk is seldom attributable to any mechanical obstacle that opposes its passage, but to the engorgement of the lactiferous canals, or the inflammation of the gland, which has ceased to secrete its natural fluid.

*Causes.*—The causes of mammitis are of two kinds, *predisposing* and *occasional*.

Among the first may be reckoned, the size of the teats, the activity of the secretion of the milk, and the small caliber of the excretory canals.

Among the second, the most frequent is, undoubtedly, parturition. After that come currents of air, and exposure to a cold and humid air. It is also the consequence of certain dishonest manœuvres, practised by some cattle-merchants, who, before they offer their cows for sale, suffer them to stand two days without milking, and, lest they should lose some of their milk, tie a fine ligature round the teats, thus giving them the appearance of excellent milkers. This

disease is also prevalent among cows designed to be fattened, while the secretion of their milk is still abundant, and who are turned into the richest meadows, where their keepers neglect to milk them at certain intervals, in order that the flow of milk may be gradually suppressed. He has the same object, but more dangerously pursued, who ceases all at once to milk them. This folly and cruelty almost invariably produces the disease of which we are now treating.

M. Lecoq adds to this interesting Memoir a narrative of various cases, illustrating each division of his subject. We may at some future time recur to them, if it be the wish of our readers; but the cream of his doctrine has been here reported.

*Mém. de la Soc. Vét. du Calvados III. p. 1.*

[I have here introduced this Essay on Mammitis, by M. Lecoq, as a valuable accompaniment to Mr. Gresswell's on "Inflammation of the Mammillary Glands," and to the debate which ensued upon it as recorded in the present number of THE VETERINARIAN. It is one of the most scientific and practical treatises which the periodical literature of our continental brethren contains.

Perhaps I had another motive:—I might with less appearance of intrusion notice some remarks which were made in that debate, on certain notions of mine respecting the subcutaneous abdominal vein in cattle. If I have been in error, I have this excuse to plead—and I am sure that, with regard to those to whom I am addressing myself, it will somewhat lighten the weight of the lash of criticism—that in the anatomical portion of the work, there were but two persons from whom I could derive the slightest assistance. They were great men—Bourgelat and Girard. The memory of the first I deeply revere, for our art owes much to him—the second, I trust, will long live to carry out the noble purposes which he contemplates.

The first, I will not say shrunk from the subject under consideration—the peculiarity of the subcutaneous abdominal vein in cattle—but he was altogether silent about the matter; and the observations of the latter occupy not more than a fourth part of one of the pages of the work on "Cattle." I may, therefore, surely be forgiven if, left to my own resources, I should occasionally err, and especially where there is so material a difference in the anatomical structure of the solipede and didactyle.

I need not tell my valued friend, Professor Spooner, that there is far greater difference between certain portions of the venous system in these animals than the young student would form the slightest conception of. Compare the bulk of the superficial abdominal veins in the two. Dissect the subcutaneous

abdominal vein, especially in cows yielding milk, and *trace the anastomosing branch which it gives to the substernal vein.* Follow, again, the singular and numerous communications between the venæ cavæ anterior and posterior—far more numerous and far more considerable than are ever found in the monodactyle, offering to the blood large and multiplied routes by means of which it may arrive at the heart; and each of these routes, probably, connected with considerations that will hereafter be found useful in practice. Neither Girard nor his disciple are “in error” here.

What a noble field has our anatomical Professor before him! The abdominal veins of the ruminant will afford him matter for many hitherto untrodden and highly useful excursions. Where there has been yet no path to guide the wanderer, a casual deviation will not be rudely censured. By degrees every difficulty will be surmounted—the light of truth will shine more and more brightly on his path—the friends of his early career will joy in his triumph, and they who were disposed to cavil will be shamed into better feelings.

To one charge the author of the work on “Cattle” pleads guilty. He recommends, when treating both of milk fever and of garget, that the teats should be frequently drawn, and the discharge of milk solicited; but he should have expressed himself more guardedly. When the milking gives no great pain to the animal, there can be no doubt that as much as possible of the milk should be drawn; but when the patient shews that she suffers much pain under the operation, and especially if purulent bloody matter is expressed, or the teats, or some particular one, is very much swelled—there is either inflammation or ulceration of the mucous membrane lining the milk tube, and which the manipulation of milking would increase.] Y.

## SINGULAR DISEASE IN A WILD BOAR.

*By Mr. W. YOUATT.*

*Jan. 23, 1839.*—This animal was mangy at the beginning of summer, and it was only after numerous dressings that the disease seemed to yield. It is now getting as bad as ever. Dress with the common sulphur ointment, with one-twelfth part of strong mercurial ointment, and give half an ounce of Epsom salts. Repeat the salts occasionally.

*Feb. 8th.*—The mange has in a great measure yielded to the ointment, but the animal is wasting away. He does not feed well,

and is costive. Give two ounces of the castor oil mixture in his swill.

10th.—Much the same. Give him half an ounce of common salt daily in his swill.

17th.—He has been alternately better and worse since the last report. The castor oil mixture always does him good. He has had two or three doses—repeat it.

19th.—He is again rallying a little, and feeds better, but is very weak. Continue the mixture.

21st.—His apparent improvement was short lived. He now appears to be sinking fast.

22d.—Died. He was in a strangely emaciated state. No inflammation of the thoracic or abdominal cavities; but he seems, notwithstanding the repeated doses of the castor oil mixture, to have laboured under severe colic. The ileum was strictured in several places. The intestines contained a great quantity of worms (*teretes*), one of which was found in the immediate neighbourhood of every stricture. There were hydatids in the liver—one immense one adhering to the spine and left kidney, and two others floating in the abdomen, and supported by a long pedicle. One of them seemed to have taken to itself a peritoneal covering, which was highly inflamed.

## THE VETERINARIAN, NOVEMBER 1, 1840.

*Ne quid falsi dicere audeat, ne quid veri non audeat.*—CICERO.

OUR readers will perceive an advertisement on the cover of this number, in which a public meeting of the graduates of the veterinary profession is convened, on the day after Professor Sewell's Introductory Lecture. We have no doubt that every memorialist who can by possibility attend will be present, and respectfully but firmly urge the claims of the profession.

The Editor very much regrets that a letter from Mr. Wood, although dated on the 22d, did not reach him until the 26th, and when his arrangements with the printer were complete. It is on a subject which, although occasionally of fatal importance, has scarcely been touched upon in any of our pages—Abortion in Cows and other animals.

The first case that was brought under his notice occurred on the 6th of February, in an aged cow; and from that period to the present no fewer than eleven cows, fifty ewes, and a valuable brood mare

have aborted. Every usual, or it may be said, every possible precaution was adopted; it was rendered impossible that there could be any contagion: the cows were separated miles apart, yet they miscarried, or brought forth at such an early period of gestation that their offspring have either been dead at birth, or only survived a very short period afterwards. There was no peculiarity of breed or food. Mr. Wood is disposed to think that there may be a certain unknown condition of the atmosphere favourable to the occurrence of abortion, and to which only can be attributed those frequent casualties sometimes observed, and which have even assumed an epidemic form.

The whole of this letter shall appear in our next number, and in the mean time some of our readers will probably favour us with their opinions of the cause and prevention of this serious evil.

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We have been told by our printer, that many applications have been made to him for the first twelve pages of Volume II of the Association, published in No. 120 (Dec. 1837), and the first twenty-four pages of Volume III, published in No. 132 (Dec. 1838). It so happened that, at the urgency of some individuals, who no more dreamed than the Editor of the evil that would follow, the beginning of one volume was published in the same number with the close of another, and when the Journal was sent to be bound, the few pages of the Association were laid aside by the purchaser or his book-binder, and forgotten or lost. The printer was naturally unwilling to supply these parts of numbers, because the sets would be spoiled.

As, however, we have been a little in fault, and the purchaser has been sufficiently annoyed by the temporary incompleteness of the volume, the Editor begs to say that, if those who hold these incomplete numbers will kindly let him know, by post, what deficiencies they have in their numbers, and the mode of conveyance of a parcel to them, all shall immediately be set right. One hint only he would beg to give—the letter which contains information with regard to these *vacua*, would, at the same time, very nicely convey a shorter or longer paper, always most welcome, for that periodical which they profess to value, and which they could render the instrument of so much good.

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One word more. The covers of our periodical are freely, freely open to our old supporters and friends; but there has been a somewhat increasing number of those of whom we know nothing, even by name, who have never yet favoured us with the usual reference to any friend in town, when their advertisements have been sent to us.

Y.



# THE VETERINARIAN.

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VOL. XIII, No. 156.] DECEMBER 1840. [New Series, No. 96.

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## THE VETERINARY PROFESSION.

A MEETING of veterinary surgeons, who had signed the Memorial, which was presented to the Governors of the Veterinary College, or who were friendly to the prayer of that Memorial, was held on the 3d of November, 1840, Mr. Thomas Turner in the chair.

The following Report of the Deputation which had been appointed to wait on the Governors of the Veterinary College was read :—

### REPORT.

The Deputation appointed at your last General Meeting to present the Memorial to the Governors of the Royal Veterinary College having fulfilled the mission with which they were entrusted, have taken this opportunity of calling you together, in order to place before you a Report of their proceedings, and to direct your attention to various suggestions for your consideration.

Your Deputation having arranged all the preliminary steps, the Memorial was presented by Mr. Tho. Turner, on the 10th of June, to the Governors of the Royal Veterinary College, who courteously received the Deputation, and promised to give the points therein contained their most serious consideration, and with a part of them they expressed their most hearty concurrence. The subject of the Charter was introduced by them to the Deputation, with whose feelings on that subject they seemed most readily to concur.

On the 3d of July, one of the members of the Deputation received the following letter from Thos. France, Esq., which led to a correspondence between them, the whole of which has been given to the profession through the medium of THE VETERINARIAN, and is only repeated here for the sake of connexion.

1. (*Copy.*)

Royal Veterinary College,  
London, 3d July, 1840.

Gentlemen,—At a Meeting of the Committee of Governors of the Royal Veterinary College, held on the 30th ult., the subject of the Veterinary Surgeons' Memorial came under notice, and the following minute was made thereon, a copy of which I am instructed to transmit to you.

“The Memorial of the veterinary surgeons, submitted to the General Meeting on Wednesday the 10th instant, and the minute then made thereon, being again fully considered,—It was resolved, That this Committee do not see the immediate necessity for applying to the Crown for a Royal Charter to be granted to this Institution; but that every facility would be given to the veterinary surgeons for procuring an Act of Parliament to prevent certain grievances complained of by the Memorial, which could not be relieved by a charter, and that the Deputation should be furnished with a copy of this minute.”

I am, Gentlemen,  
Your most obedient Servant,

THO. FRANCE,  
(*Sec. pro tem.*)

To Messrs. Mayer and Son,  
Veterinary Surgeons,  
Newcastle, Staffordshire.

2. (*Copy.*)

Newcastle, Staffordshire,  
July 9th, 1840.

Sir,—I have to acknowledge the receipt of your communication of the 3d ult., containing a copy of the Resolutions of the Committee of Governors of the Royal Veterinary College. As the official organ of that body, I address to you the following remarks, it being no less a duty I owe to myself, than also to those with whom I had the honour of appearing at the General Meeting. It is satisfactory for me to know, that they will receive from you every attention, and that you will not consider them as emanating from any factious or disrespectful feelings towards the Governors, but solely from the desire of promoting, in every possible way, the welfare of our profession, and the propositions of those of whom I was an humble representative.

The minute of the Committee states, that “The Memorial of the veterinary surgeons submitted to the General Meeting on Wednesday the 10th instant, and the minute” (which has not been com-

municated) "then made thereon, being again fully considered, It was resolved, &c. &c.

The Memorial, you are aware, contains no less than four different propositions; and if, as the minute implies, the *whole were fully considered*, I am at a loss to conceive why the resolution should only refer to the Charter, and that the Deputation should receive the decision of the Governors on that point, and on that point only.

We were informed at the General Meeting, that the propositions would be referred to the Examining Committee for their consideration. It will be satisfactory to know whether this has been done, and what is the resolution of the Committee upon these points; for I am led to the conclusion, that some resolution has been made on the subject, from the fact of Professor Sewell having stated in his concluding lecture, that the Governors "*had resolved*" that no additional Lecturer on the Pathology of Cattle should be appointed, and that they were perfectly satisfied that he was fully capable to perform the duties of Lecturer on the Pathological and Surgical Treatment of the Horse and all domesticated animals.

It is not only important, but it is earnestly desired by the profession, that the *earliest* information should be given to the Deputation on these points; because they feel and believe that no progress can be made in veterinary science, or the profession at large benefitted, until the whole of the propositions contained in the Memorial are carried into effect, for the accomplishment of which they feel it their duty to use their best exertions.

The Resolution itself states, that the "Committee do not see the immediate necessity for applying to the Crown for a Royal Charter, but that every facility would be given to the veterinary surgeons for procuring an Act of Parliament to prevent certain grievances complained of by the Memorial."

It was stated by myself and others of the Deputation *on undoubted authority*, at the General Meeting, that we could not go before Parliament *until we had obtained* a Charter of Incorporation. With this information before the Governors, I am totally at a loss to know how it is that there is no immediate necessity for a Charter; and still further, what facilities (except that of a Charter) can be given to the profession to enable them to obtain an Act of Parliament.

A meeting of the Deputation, and perhaps of the profession, is likely soon to be summoned. I am sure you will, on the perusal of these few remarks, see the necessity of some explanation being given, in order that the sentiments and feelings of the Governors may not be misrepresented, or their resolution subjected to that construction which it is quite evident it admits of.

I shall feel obliged by any remarks you may be pleased to com-

municate to me, also for a copy of the Resolution of the Committee of Governors upon which Professor Sewell's assertion was founded, with the date, and for the opinion of the Examining Committee on the several propositions contained in the Memorial, in order that I may communicate them to the Deputation, and, if they think proper, to the Members at large who have signed that document.

I remain,

Your obedient Servant,

THO. WALTON MAYER, V.S.

To Tho. France, Esq.

(Sec. pro. tem.)

London.

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3. (*Copy*).

Bedford Row,  
16th July, 1840.

Sir,—On the other half sheet you have a copy of the minute of the proceedings of the Governors on the 10th June, when you presented your Memorial. There will be a meeting of the Medical Honorary Members of the College on Wednesday next, when the subjects of the Memorial will be laid before them for their advice: when that is received, a Committee of the Governors will be convened to determine thereon, and the result will be communicated to you. It is impossible for me, at this season of the year, to say when the meeting will take place.

I am, Sir,

Your obedient Servant,

THOS. FRANCE.

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(*Extract.*)

Mr. Thos. Turner, Mr. King, Mr. Thomas Mayer, jun., and several other members of the veterinary profession, attended, and presented a Memorial on behalf of themselves and others, signed by 315 of that body, which being read, the heads of which were, requesting the Governors to procure a charter and an act of parliament, to prevent illiterate men, who had not obtained a diploma, from practising, or writing up that they had been educated at the College, by which means discredit is brought on the profession; to increase the fee paid by pupils to thirty guineas or more; and certain regulations to be adopted respecting students who had been apprenticed to members. After fully hearing the Deputation and various letters read, the Deputation was informed, that the Governors have had the subject of the Memorial under their very serious consideration, and would most readily concur with the wishes of

the Deputation in taking the earliest opportunity of submitting such measures as may seem most advisable to the proper authorities; but that the Governors saw no reason to alter their opinion, which they had formed upon very mature consideration, on the subject of the recommendation as to the increase of the lecturers and the fees paid by the pupils.

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Since that period your Deputation have received no official communication from the Governors; they thought it therefore proper on their parts thus to call you together, in order that you may consider what further steps should be taken in this most important matter.

It is the opinion of your Deputation that a resolution to the following effect should be passed at this meeting: viz.

That in the present advanced state of veterinary science, it is the deep feeling of the profession that a limited number of Veterinary Surgeons should be added to the present Examining Committee. Also that a copy of this resolution should be sent to the Chairman of the Governors and the present Examining Committee.

Your Deputation also would suggest for your consideration the propriety of petitioning the Privy Council for a Royal Charter, conferring upon the graduates of the Royal Veterinary College and the College of Edinburgh the title of the *Royal College of Veterinary Surgeons*, upon the same plan and constitution as the present *Royal College of Surgeons*; and that, in addition, an Act of Parliament be obtained, granting unto the members of the *Royal College of Veterinary Surgeons* the same exemptions as the present members of the College of Surgeons enjoy.

It is also the opinion of your Deputation, that a Standing Committee, with a Chairman and Secretary, with power to add to their number, should be appointed to watch over the interests of veterinary science, who shall be empowered to call a general meeting of the Memorialists, and to take such measures for carrying out the several propositions as may be agreed upon.

In conclusion, your Deputation sincerely trust that these and all other points connected with the interests of veterinary science may be considered and carried out in a spirit of good temper and good feeling, and that they may tend, as they ardently desire, to the further advancement of veterinary science.

The Report of the Committee having been read, the first resolution recommended by the Deputation was proposed by Mr. Simonds, and seconded by Mr. T. W. Mayer, and carried unanimously.

The second resolution was moved by Mr. Braby, and seconded by Mr. Walker, and carried unanimously.

And the third was proposed by Mr. F. King, jun., seconded by Mr. Plomley, and also carried unanimously.

The following gentlemen were then nominated on the committee :—

Mr. G. Baker, Reigate  
 — G. Baldwin, Fakenham  
 — E. Braby, London  
 — Cheesman, Wandsworth  
 — Daws, London  
 — Ernes, London  
 — E. Gabriel, London  
 — Karkeek, Truro  
 — F. King, jun., Stanmore  
 — C. Marshall, London

Mr. Mavor, London  
 — Mayer, Newcastle-under-Line  
 — Mayer, jun., ditto  
 — Nice, London  
 — James Sewell, Brighton  
 — Jos. Sewell, London  
 — Silvester, St. Albans  
 — J. B. Simonds, Twickenham  
 — W. C. Spooner, Southampton  
 — T. Turner, Croydon.

It was moved by Mr. Simonds, and seconded by Mr. F. King, jun., and carried unanimously, that Mr. T. Turner be elected Chairman of this committee.

It was moved and seconded by the same gentlemen, that Mr. Mayer, jun., be appointed Secretary : this was also carried unanimously ; Mr. Harry Daws having kindly consented to act in case of any sudden or unexpected business occurring.

It was resolved, that these Resolutions, with the Report this evening read, be inserted in THE VETERINARIAN.

Resolved, That the long-promised answer of the Governors not having been received, the Committee defers for awhile other most important business.

Thanks were unanimously voted to the Chairman.

(Signed)

THOMAS TURNER, Chairman.

## ON GLANDERS.

*By Mr. W. MOGFORD, V.S., Guernsey.*

RECURRING to the subject of glanders, I, in common with many others, feel that our speculations on the origin of the disease, whether *infection* or an *empoisoned atmosphere*, have led to but little practical advantage. The melancholy fact is still before us, that the animal dies, and the owner, previously in reduced circumstances, is often thereby completely ruined. Not unfrequently individuals who have had the care of the patient fall victims to the horrible distemper.

Although unable to ascertain with precision the cause of the evil, and however we may differ as to the issue of the remedies to be applied, much will have been gained if, by sounding the tocsin of



alarm, we put parties on their guard, and verify the old adage, that "prevention is better than cure."

"An old artillery officer," who has done me the honour to notice my observations on this difficult question in your number for August last, and who, I will observe in passing, while he favours us with his general remarks, has thought it prudent not to hazard an opinion of his own, suggests that, in 1800, at the time of the expedition to Egypt, glanders and farcy were very rife in England, and, consequently, the horses might have been infected before their embarkation. The possibility I have neither opportunity nor inclination to deny.

However apparently foreign to the question in hand, I feel tempted to dwell on his allusion to the prevalence of the disease at the time specified. I would ask him why more *then* than now? We may obtain many valuable hints from the history of the change. As in the case of ophthalmic cataracts—inflammation of the lungs—catarrhs—curbs—spavins, &c., every attentive observer must know that the diminution in the number of these cases is principally attributable to the improvements which have taken place in the construction and ventilation of stables, for which we are indebted principally to the late Mr. Coleman. Will your respected correspondent maintain that the comparative rarity of glanders is not to be traced to this same amelioration?

He adduces, as making against this inference, the neglected state of stables on the continent, observing, that if foul air were the cause of the disease, they would never be without it. He forgets that if there exists notorious evidences of neglect in the said stables, they are marked on the other hand by great advantages, and advantages of a nature to supply an answer to his allegation. Admitting that in France, Spain, and Portugal (I specify these, having visited them myself), the stables are far behind this country in cleanliness and order, it must not be forgotten, that they are extraordinarily large—more like barns than stables, with numerous air-holes, and very seldom full. In some of them I have seen a stream of water running through the centre.

Now, if it be a fact, that the free circulation of air has been attended with a simultaneous diminution of the number of cases, surely "the old artillery officer" will not deny that it may serve as a clue to the origin of the disease! He will not assert that these dirty stables, with the characteristic preventives I have mentioned, can be brought into comparison with the hold of a ship in a gale of wind, and with the hatchways battened down! He will allow that more is required than his allusion to the *possibility* of the horses having caught the infection previous to their going on board, in order to account for glanders breaking out under those

circumstances, and with symptoms so prominently marked as to justify the immediate destruction of six of them.

I have a right to call for less precipitation in the solution of our doubts, having been very guarded myself. I have confessed that I have often been exposed to mistakes, the symptoms varying so much, according to its several stages. Even as to the horses above-mentioned, I should at the time have hesitated before I had declared them to be glandered, had it not been for the subsequent discovery that they had the farcy.

As I observed in the paper which has attracted the attention of your correspondent, the peculiar circumstances under which I have had to detect the disease in this island, have confirmed me in the opinion that we cannot be too cautious in the analysis of the symptomatic features of cases. For, doubtless, there is much to excite apprehension in appearances, when, after all, the reality does not exist.

In many of the horses imported here from France, when the hold has been full, and closed in consequence of boisterous weather, after even so short a passage, I have had inflammatory catarrhs, swelling of the maxillary glands, and running at the nose, and yet the result has shewn that glanders did not exist.

About twelve years ago, a Mr. Lecocq landed a cargo of horses, all of which were extremely ill. The lives of four of them were in a very precarious state for some days, but through prompt treatment and constant attention they all recovered: some of them, however, very slowly, having a continuous running at the nose, enlarged glands, and abraded surface of the nostrils.

My hopes of recovery were founded on the *appearance* of the matter, which had not those distinguishing peculiarities which, traced in their gradual development from the infancy of the disease to its consummation, supply, in my opinion, one of the most decisive tests—in many cases I might affirm the *only* decisive test—in consequence of the tricks practised on diseased horses.

The fact is well known. Mr. Mayer has proved that the ancients had sought for a cure in the dissection of the maxillary gland. Whatever degree of efficacy may be allowed to the operation, as a means of effecting a *cure*, I well know that recourse has been had to it with a view to *conceal* the disease. Years ago, the gipsies about Norwood were in the habit of buying up glandered horses. They had the maxillary gland dissected out, injected an astringent lotion up the nose, and they found willing purchasers at Smithfield. I have had the same game practised on me here; but I was forearmed. To detect the peculiarity on which I lay stress, requires not merely keenness of observation, but lengthened practice. It is owing to this that an adequate judge will often expe-

rience opposition and resentment, on account of the opinion which his familiarity with the subject enables him to give. I have now an action entered against me for having, in the discharge of my duty as inspector, reported three horses as being glandered, and that at the instigation of a young beginner in our profession. Two of them are since dead, and the other labours under the effects of the disorder in its advanced stage.

I, in common with others, cannot but wish that the result may justify the opinion of Professor Sewell, *that glanders is curable*. I cannot say, however, that my personal observations support that doctrine. At any rate, if the disease is curable, it must be in its incipient stage only; and that circumstance would make me apprehend many difficulties in the way of the learned Professor's demonstration. From the great backwardness to call in professional aid, which is fed by avarice, and the arrogant appeal to authors, who profess to make the party his own doctor, I fear he will find it almost impossible to obtain a case at the stage at which the cure, if ever practicable, could alone be effected. Mr. Sewell has already conferred many advantages on the profession. To him we are indebted for some most valuable discoveries. All candid men, however, incline to scepticism regarding this theory. Admitting the great obscurity in which this interesting question is involved, I cannot but anxiously wish him success, and to have the subject fairly tested. The great difficulty being, I imagine, to obtain subjects at a given period, it would be well if government could be prevailed upon to supply the means for a trial on a sufficiently extensive scale.

Always anxious to stimulate inquiry, and willing to contribute materials that may facilitate our arriving at a correct conclusion,  
I remain, &c.

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EXTRACT FROM THE COMPTE-RENDU OF THE LABOURS  
OF THE ROYAL VETERINARY SCHOOL AT ALFORT,  
DURING THE SCHOLASTIC YEAR 1839-40.

PATHOLOGY AND THERAPEUTICS.

*M. Renault, Professor ; M. Bouley, Assistant Professor ;  
Second Assistant, M. Prudhomme.*

DURING the scholastic year, which has just terminated, 825 animals of different species have been admitted into the hospital, and become the subjects of clinical lectures. In addition to these, more than 2000 have been brought for consultation, either with regard to diseases of various kinds, or for examination as to soundness. In the course of the two last years 1669 have been inmates

of the hospital, and 4000 have undergone examination. Besides these advantages, the pupils of the fourth year have, under the direction of the professors, undertaken the medical care of a great many horses and other animals belonging to persons living in the immediate neighbourhood of the school.

*Acute Glanders.*—MM. Renault and Bouley have continued their researches on this disease. An inquiry into the nature of this malady, its symptoms, and, more especially, its contagious property, has acquired increasing interest since its transmissibility from the horse to the human being has been lately proved in so many instances. MM. Renault and Bouley have arrived at the following results.

*Contagion.*—1. Acute glanders is contagious by inoculation from horse to horse. Every experiment of the last and the present year has given this positive constant result. Without a single exception, the symptoms of the infection of glanders have appeared in the inoculated animals from the third to the fifth day, and death has ensued between the tenth and fifteenth days.

2. Acute mange is communicable from horse to horse by cohabitation. Many experiments during the last year have rendered this incontestible. Nevertheless, with regard to the second point, it should be observed, that the contagious properties of acute glanders are rendered more manifest by inoculation than by cohabitation. Very few horses resisted the inoculation; while more than half of those subjected to cohabitation with glandered animals remained safe and sound, although they had been with infected horses from the commencement to the fatal termination of the disease.

3. Acute glanders,—is it transmissible from the horse to other animals? This third point is of the utmost importance with reference to the etiology of glanders in the human being. MM. Renault and Bouley have already given an account of their having inoculated the sheep, the dog, and the pig with the matter of glanders. The first results of these experiments seemed adverse to the transmissibility of glanders from the horse to animals of a different species. In fact, when the last compte-rendu was published, the two sheep seemed to have resisted the power of the virus, for they presented every appearance of health; but they died in a state of excessive marasmus, and with all the symptoms of acute glanders, five or six months after the inoculation. Examination shewed the same lesions in the cavities of the nose that are found in those of the horse.

A series of experiments directed to the same object with regard to the dog, the sheep, and the swine, has been undertaken by MM. Renault and Bouley, and which they purpose shortly to publish.

These facts, combined with some other undoubted ones, of the transmission of glanders from man to the horse, render this sad truth too evident, that communicated acute glanders is no longer a malady peculiar to the horse.

As to the contagiousness of acute glanders by cohabitation with animals different from the horse, MM. Renault and Bouley can give no positive opinion. The experiments in which they have been engaged have been attended only by negative results.

A serious question remains to be solved,—What is the nature of acute glanders? Is it a malady of a specific kind, as variola or syphilis; or is it only one of the forms of purulent infection? The following are some of the elements, grounded on experiment, which may enable us to arrive at a definite solution of this pathological problem.

Pus, in small quantities, dissolved in distilled water and filtered, has been injected into the veins of many horses. In some of these animals an intense fever has supervened between the first and the third day, and has continued until the seventh or eighth; then, by little and little, the febrile symptoms have subsided, and, at the fifteenth day, there has no longer remained any symptom of disease.

These animals being destroyed by venesection, there have been found in the lungs and in the spleen numerous abscesses, perfectly isolated by the firmness of their surrounding tissues.

This purulent injection has determined in other animals an intense febrile re-action; and from the third to the fifth day, the ordinary time of the incubation of acute glanders, whether spontaneous or generated, the symptoms of this malady have appeared with their characters well marked, and the animals have died between the tenth and the twentieth day.

Examination after death has shewn in the nasal cavities, the lungs, the spleen, and the articulations, all the characteristic lesions of acute glanders.

In order to remove every doubt with respect to the nature of this affection, in some degree an artificial one, we have inoculated some sound animals with the matter discharged from the nostrils of others that have become diseased by a purulent injection, and acute glanders has been the result.

In another case, the introduction of pus into the veins of a healthy animal, has had the remarkable result of producing an abscess in one of the fore legs, with suppuration of the articulations and tendinous sheaths. Some abscesses were found in the lungs, but the nasal cavities were perfectly sound.

There is yet another remarkable circumstance, and well worthy of attention, as a consequence of the injection of pus into the veins,—there are sometimes developed abscesses in the lungs; sometimes

acute glanders, with all its characteristic symptoms and lesions; and, occasionally, enormous purulent collections in the articulations and the interstices of the muscles.

The same results have been obtained by the injection of pus into the veins of a dog.

This coincides with the facts to which M. Renault has so often directed the attention of the pupils, of the appearance of glanders, after long and abundant suppurations; and may, perhaps, induce us to adopt the opinion of Dr. Tessier, so well developed in his *Memoir on Phlebitis*, that glanders may, perhaps, be hereafter acknowledged to be nothing more than one of the forms under which the purulent diathesis is developed.

*Réc. de Méd. Vet., Sep. 1840.*

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## ON ABORTION IN CATTLE.

*By* HOLDER WOOD, *Esq., Middleton, near Beverley.*

Sir,—I TAKE the liberty of transmitting to you an account of a very extraordinary loss which a friend of mine in this neighbourhood has sustained among his stock, in consequence of a considerable number having either miscarried, or brought forth at such an early period of their gestation, that their offspring have either been dead at birth, or only survived a very short period afterwards.

He has favoured me with the following statement, which I beg to submit to your notice, and would feel very much obliged for the favour of your opinion as to the probable cause of this destructive complaint; or, if you should consider it worthy of insertion in your widely circulated Journal, perhaps it might draw the attention of some of your numerous readers to this disease, which, from its importance and frequent occurrence, I think well deserving of consideration.

The following is a brief history of cases already come under notice, amounting in number to eleven cows, fifty ewes, and also a valuable brood mare, which slipped her foal, and died a few days afterwards. The first case happened on the 6th of February, in an aged cow, about three months from her full period: the foetus was immediately buried in a dunghill, and the cow removed to another farm. The next cases occurred early in March, when two heifers, which had stood adjoining to the cow already mentioned, both calved. One of these being only one month from her full period, recovered quite well, and the calf lived; but in the other case the placenta was not expelled for more than a week afterwards, and, since then, she has regularly come in season for the



bull. About a fortnight afterwards, another cow cast her calf, though she had been removed to a distance of two miles. The next six cases, which happened during the months of April, May, June, July, and October, require no particular remarks, as the mothers all perfectly recovered, though their offspring never exhibited any signs of life. After these, another heifer, that had been removed to a considerable distance immediately after taking the bull, in order to be clear of all communication with the rest, aborted in the month of August, at the end of the seventh month of gestation. It may be well to remark, that thirteen half-bred Irish cattle, bought at York, and introduced amongst the rest of the stock, and at all periods of their gestation, calved well, without exhibiting the least symptom of disease.

From the foregoing account it will be impossible to explain the cause of this remarkable occurrence by considering abortion to be a disease of a contagious nature, and that it may be transmitted from one to another by communication or contact, as in this instance every precaution was taken to prevent it from spreading, by separating those in which the complaint had first exhibited itself from the other cattle, and removing them away to some distant situation.

I think that the cause may, with greater probability, be referred to a certain condition of the atmosphere which seems to favour the occurrence of abortion. To this only can be attributed those frequent abortions sometimes observed, which have even assumed an epidemic form. Many predisposing causes may, however, exist on the part of the mother; for example, irritability or too great rigidity of the uterine fibres and bloodvessels, which, by preventing the regular enlargement of the gravid uterus, gives rise to premature expulsion of its contents.

A very frequent cause of abortion is a diseased condition of the foetus itself, or its membranes, by which it is deprived of life, and afterwards expelled from the uterus like a foreign body. All cases of abortion cannot, however, be referred to a diseased state of the uterus or its contents, since it cannot be doubted that this process may be brought on by accidental separation of the placenta, in consequence of an unusual influx of blood to the vessels of the uterus, or contraction of the uterus itself. If this takes place to a considerable extent, the progress of gestation will be arrested, and, in a longer or shorter period, the ovum will be expelled.

In plethoric cases, very slight causes may give rise to extravasation of blood between the uterus and placenta, with the other consequences now described. I may here remark, that the cattle were all in good condition, and well fed; from which circumstance I was led to suppose that a plethoric state of the general circulation would favour a determination of blood to the uterine organs, or assist the

operation of any of the predisposing causes already mentioned. On this account I was induced to recommend the employment of bloodletting, as soon as any bad symptoms exhibited themselves; but I had only a single opportunity of seeing its effects in a case which has lately shewed symptoms of abortion, and in which venesection was practised with apparent benefit, as the cow has gone on very well since. No preventive means were adopted in any of the other cases. As I feel very much at a loss to account for this occurrence in a satisfactory manner, I shall be happy to hear the opinion of any of my professional brethren; and should these remarks, by future investigation, throw any light upon the subject, they are much at your service.

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## ON ABORTION IN CATTLE.

*By M. HURTREL D'ARBOVAL.*

[We present our readers with a valuable treatise on abortion by this talented writer. It is translated from the second edition of his Dictionary of Veterinary Medicine and Surgery. The Essay of Mr. Wood, combined with the ably written article of the French philosopher, will lay some foundation for a better knowledge of the cause and treatment of this most destructive malady. How many of our correspondents could favour us with some valuable observations on this ill-understood subject!—Y.]

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ABORTION is the accidental expulsion of the fœtus—premature parturition—or that which is accomplished before its time. It occasionally takes place among all the females of our domesticated animals, and at every period of gestation. The fœtus is generally dead, or expiring, or rarely with vigour sufficient to sustain life.

It is necessary to distinguish between abortion and premature parturition. In the latter the expulsion of the fœtus may take place before the ordinary period of gestation is expired; but that period was not far distant, and the little animal is sufficiently developed, and unites sufficient of the vital elements, to live, sometimes at least, if any interest is taken in its preservation.

It is not the same with the expulsion of the fœtus at a period nearer to its conception, for then, being less perfectly formed, and less strong, it fails in the conditions necessary to life, and soon dies, if it is not already dead in the uterine cavity. In the human species infants which are born about the end of the seventh month from the period of conception may live, and do generally live. Reasoning from analogy, we should be disposed to admit that it

would be the same with cattle, whose period of gestation is of the same length; and we may consider in this animal every expulsion of the foetus after the seventh and before the expiration of the ninth month of gestation, as a premature parturition; reserving the term abortion for the expulsion of a foetus before the seventh month. With regard to other species of domestic animals this will vary with the usual period of gestation.

This accident, to which cows are more subject than any other domestic animal, is always followed by consequences more or less injurious, both with regard to the mother and the progeny. In the mother, it sometimes, but rarely, is followed by death, and generally by a disposition to abortion at a future time, and also to inflammation at that period, and difficulty or impossibility of being delivered. The abortion which is least serious is that which takes place at a short period after conception. Many cows experience very little derangement of their health, but in others the period of œstrum returns at a very short distance of time, and is strangely prolonged, and difficult to remove. Returning frequently, conception seldom takes place, or, if it does, is followed by renewed abortion, and by the death of the calf either before or quickly after its expulsion from the uterus.

Abortion, however, has other dangerous consequences. The cows, and especially if badly kept, remain weak, and predisposed to various maladies, and other abortions follow the first.

When a cow aborts in the first months of conception, her parturition will be difficult. Except great care is taken, the expulsion of the uterus and also of the vagina will follow; and, where unskilful hands are employed in effecting the delivery, it will be fortunate if the membrane of the vagina is not ruptured. This latter accident is a very serious one, and often mortal, especially when the laceration is near to the uterus.

The females most exposed to premature parturition are cows and mares; next to them follow sheep. Abortion, however, is seldom prevalent among the latter, except from some particular cause, and if it is frequent, which is very rare in sheep, it is from some cause affecting the whole flock; as, for instance, when they have been half starved, or when, after a rainy summer and autumn, during which they have been badly kept, they are shut up in the winter in stables, in which they are yet worse off. Abortion likewise happens to sheep, when the ewes, exposed all the year to the open air, are placed in situations in which the atmosphere is charged with much humidity.

Goats rarely, or almost never, abort. It is the same with sows and with bitches, with the exception of the very small and delicate breeds, either too young or too fat. They seldom go their natural

time. Cats very rarely abort. They may be seen, when near the period of parturition, falling from a height of twenty or thirty feet without abortion, although some of their limbs have been broken in the tumble. Birds are not exposed to abortion, except we regard as abortions those eggs which are laid without the female having connexion with the male.

That which renders abortion most to be dreaded is the little knowledge we have of its true source, and the difficulty of preventing its return; therefore it belongs to the number of evils of the real nature of which we can form little or no conception, and which the vulgar attribute to sorcery. The causes of it, in fact, are yet to be investigated, and must be studied with the closest attention.

Whatever may be its actual cause, it depends, in a certain degree, on the constitution, the age, the weakness, and the maladies of the mother;—the state of the uterus, the diseases, and the faults of conformation of the foetus and the uterine membranes;—the being placed in localities exposed to an atmosphere vitiated by marshy emanations, or in situations, low, humid, and deprived of the proper solar influence.

It is to this list of evils that abortion is to be attributed, considered by some persons as enzootics and epizootics, because they know not the true causes, but search vaguely for them in the heats and long droughts, and the cold and abundant rains which succeed to them—the inundations which spoil the hay and the grass—and the vapours which ascend from the humid ground, &c. &c.

We have always found it difficult to believe in the reality of these abortions as dependent on any enzootic or epizootic influence, and which is still more difficult to be admitted, if we take these words in their true and proper acceptance. All the cows and all the sheep of a farm may abort because they have been exposed to the common influence of the same causes; but it is only necessary to remove these causes in order to destroy the effects; and, if the farmers will take this precaution with regard to all their cattle, and that for the period of a twelvemonth, they will escape from this destructive agency.

There is one series of causes which may be said to have a general influence,—namely, those that have relation to insufficient food. The foetus suffers from the manner of feeding the mother. If she receives not sufficient food, it dies. Some unwholesome alimentary substances produce a general atony, which reacts upon the uterus as upon other organs, and prevents the growth and even the existence of the foetus. Abortion is more rare under the influence of a too nutritious or too abundant food, and is produced by the general plethora in which the uterus participates.

Beside these remote causes, there are others which are occa-

sional, such as wounds, blows, falls,—the fearful pressure on the uterus when the cow is hurried through a narrow passage or gate—the large size of the male relative to that of the female—hard work—sudden muscular efforts—long, rapid, and violent driving—heavy weights, and carelessly placed on those that are used as beasts of burden—the deficiency of work, or the want of it, or the excess of condition—frights—too cold drinks at certain periods of gestation—indigestion, attended by inflation of the paunch—colic—inflammation, or a state of permanent excitation of the uterus—stimulating medicines, particularly those that have a special action on the womb, as rue and savine—in fine, every thing that can disturb the animal economy, or determine a sudden change in it, or impress a violent shock, or in any way compromise the safety of the fœtus or interfere with the full and perfect connexion of the mother with it—may produce abortion.

Reiterated copulation during the period of pregnancy will often cause the mare to abort, but has not this effect on the sow.

Independent of these common and general causes, which are followed by abortion after a greater or smaller length of time, there are some which are peculiar to cows. Those that are excessively poor, or old, or phthisical—that have been over or under fed—or kept constantly in hot and moist dairy houses—or in places where the air is seldom renewed—or where the atmosphere is empoisoned by emanations arising from the transpiration of the animals, or the vapours from their dejections, and especially from dung-heaps that have been suffered to remain too long in these places—in such situations the cows and sheep are exceedingly liable to abortion. In many places cows are constantly kept in the house, and nothing is given to them during eight or nine months in the year but dry food, and that principally consisting of straw, and as much as they will eat of it—this kind of nourishment fills and distends the cæcum, and causes it to occupy an unnatural space in the abdomen, pushes upon the uterus, and opposes the growth of the fœtus. In addition to this, cows that are always kept on dry fodder void their excrement with difficulty—their fæces are hard and black, and only expelled by violent contractions of the abdominal muscles, and this still more annoys and injures the fœtus, already enfeebled by the causes just stated.

The cow which, during the greater part of the day, pastures in the field, or on the side of the road, is not so subject to abortion, for it respire a wholesome air, and is free from all the nuisances that have just been referred to. The cows that are out at pasture almost the whole of the year, if they are otherwise properly attended to rarely abort, unless it is forgotten to drive them home

when the ground is covered with hard frost, or they are kept in marshy situations where thick and heavy fogs prevail.

Another cause of abortion in cows is the custom in some situations to water them in, or make them walk over a deep tenacious soil, into which they sink deeply, or to permit them to pasture in the neighbourhood of ponds, where the soil is of this quality. In order to disengage their feet from the clay into which they every moment sink, they are compelled to make considerable efforts, which are principally evident towards the region of the loins, and these cause in the uterus, and, in fact, in the whole of the frame, a succession of violent struggles too likely to detach the fœtus, and especially when the pregnancy is far advanced.

Bleeding has been supposed, without sufficient reason, to be a cause of abortion. The useless bleedings, which are frequently practised in some places as methods of precaution, and at certain seasons of the year, are not to be defended; but they have no connexion with abortion. Many times, in the course of a long practice, and in consequence of certain indications, we have abstracted blood from cows that were pregnant, but abortion has never been produced by this operation; nevertheless, it must be conceded, that too copious a venesection might be the cause of abortion, by destroying the equilibrium in the circulation; also, by suddenly diminishing the quantity of blood directed to the uterus, it may relax, or, perhaps, momentarily suspend, the important function with which this viscus is charged. If, however, the bleeding is practised with prudence and moderation, and repeated only when the abstraction of blood is absolutely required, the operation may be resorted to without danger.

It is said that the sow will abort if she is suffered to eat too much cabbage, or rape, or any other plants from which much gas may be occasionally extricated. From the frequent cutaneous affection to which this animal is subject, and the habit of rubbing itself against hard bodies, may arise another cause of abortion. This accident, however, is rare in the sow, especially in the state of liberty in which she is usually kept.

A disposition to abortion, especially at an advanced period of utero-gestation, would be recognized by the same symptoms as indicate the approach of parturition, except that they would not be so decided, and more subject to certain modifications. There are some females that appear very little or at all affected, either during or before the process of abortion. Sometimes it is sudden, or almost without warning. Ordinarily, however, the appetite is diminished—the cow is dull—ruminates but little, and staggers as she walks. Sometimes, the paunch is hoven—the belly usually drops—the motions



of the foetus considerably diminish, and at length are no longer seen. The milk diminishes in some cows—the teats become flabby, and then it may be presumed that the foetus is dead. If the abortion does not take place until a considerable period after the death of the foetus, the case becomes aggravated by the closure of the mouth of the uterus, and then, frequently, the cow is lost.

The approach of abortion is sometimes announced, one or two days before it occurs, by the discharge of a glairy red, or yellow, or foetid fluid from the vulva. The cow also lows in a peculiarly plaintive manner. She is continually shifting her posture, or lies motionless or depressed. Sheep bleat, and mares whinny more frequently than usual. The abortion, even in the animals that seem to suffer the least, may be recognised by the slowness and heaviness of the walk—the swelling of the vulva—and, especially, the dropping of the belly. The pulse is hard and intermittent, and the artery wiry. When abortion is caused by starvation, it is preceded by general feebleness, a staggering walk, and great loss of flesh. The sheep then lose their wool.

The symptoms which announce the immediate approach of abortion resemble those of ordinary parturition, except that they are usually more intense. There is, in general, much inquietude, trembling, slight labour pains, frequent dejections. Sometimes the rectum, the vagina, or the uterus, become relaxed, and the one or the other protrudes and is inverted at the moment of the expulsion of the foetus, preceded by the placenta, which presents itself foremost.

A cow, having once aborted, usually slips her calf for many successive years, and the abortion becomes every year nearer to the natural time.

Some persons have not been content with asserting that this is an epizootic affection, but they have also affirmed that it is contagious. This is even a greater error than the former. It should be the farmer's anxious endeavour to destroy all the causes which occasion it, and which act in a uniform manner on all the cattle in the same stable—to change every erroneous regulation—to reform every thing that is wrong in the management: he will then prevent this evil, which he so much dreads.

The treatment of abortion should have relation to the symptoms which accompany it—the time when it happens—the various circumstances which precede and follow it, and its repeated occurrence.

When in consequence of a fall or kick, or any analogous cause, it is doubtful whether abortion will not follow, the owner must adopt the measures that are most likely to prevent it. If the beast is young, strong, and full of blood, venesection will doubtless be salutary. The bleeding, however, should be small, and then it will be safe to repeat it if there is occasion. It is no less neces-

sary to evacuate the bowels by the administration of enemata or purgative medicines. The animal should also be kept as tranquil as possible, and be left at liberty in a convenient place and a warm temperature.

When abortion is apparently inevitable, the alimentary canal should be well opened, as in the preceding case; fomentations of warm water should be applied over the loins, also fumigations of hot water over the belly and nostrils, with gentle friction and mild injections. The beast should be at liberty, and undisturbed, except that, occasionally, if the weather will permit, she should be gently walked out; and this should be repeated according to the effects which it produces. If it occurs spontaneously, the after-treatment should be as in natural parturition; but if the little one is falsely presented, the treatment must be the same as in unnatural labour.

The foetus having been removed, the placenta must be soon afterwards and gently withdrawn, if there is no considerable inflammation of the uterus. For this purpose the hand, covered with some greasy matter, must be introduced, and efforts gently made to separate the cotyledons which are yet adherent; but with the recollection that the slightest possible force should be used in the separation, so that no effusion of blood shall follow. If the cotyledons present considerable resistance, and there is hemorrhage, they must be let alone, and recourse must be had to emollient injections, and to fomentations of the same kind over the loins, and, possibly, a slight bleeding, and then these membranes may be usually detached without any great force.

The foetus and the placenta being expelled from the womb, care must be taken of the mother. The state of the womb must first be ascertained, and such local measures adopted as that state may appear to require. If there is inflammation, recourse must be had to simple emollients, or fomentations over the loins, or injections. If there is want of tone in the parts, warm water, slightly impregnated with brandy, must be injected; but especial care must be taken that the inflammation is not increased by the use of too active measures. Nothing must be resorted to that can augment the irritation which it is of so much consequence to destroy, or which might lay the foundation for future sterility, or the repetition of abortion.

The consequence of abortion being got rid of, and there being no suspicion of remaining disease, nothing more is to be done but to continue somewhat carefully on the watch. In general it will be necessary to give a little better food, and, sometimes, refreshing drinks and gentle exercise. It will be prudent, if it can be possibly effected, to let the first œstrum after the abortion

pass over without her having access to the male, in order that the vigour of the generative organs may be reinstated.

Both the mare and the cow that have been in the habit of aborting may soon have a return of the œstrum, and of so great violence as to degenerate into nymphomania; and, having no opportunity to gratify their desires, they may fall into a state of marasmus, and perish. Oftener, however, it appears to be little more than the common œstrum; yet they do not readily conceive. This irritation must be combatted by the antiphlogistic measures already indicated, by the use of leguminous roots and green meat, if the season will permit of it, and a moderate bleeding some days before copulation.

The grand means of preventing abortion consist in putting fewer cows into the same house—oftener removing the dung—giving every day fresh and abundant litter—having the cow-house more completely ventilated, or, at least, the doors and windows oftener opened, and giving the animals better and more frequent exercise. Cows and sheep should be turned out during a portion of every day; but they should be rarely permitted to wander on luxurious pasture, or artificial meadows. When they are kept within doors, straw should be more sparingly allowed them, and the deficiency made up with good hay and other provender.

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## A CASE OF VENTRAL HERNIA IN A MARE.

*By Mr. W. RUSH, V.S., Framlingham.*

My dear Sir,—I HOLD it as an axiom, that for the advancement of the veterinary profession, or its sister science, the record of *unsuccessful* cases is as necessary as that of the more fortunate ones. This induces me to lay before you in detail the result of my endeavours to heal a lesion of the transversalis muscle, extending in a slightly oblique direction from above downwards for about four inches, and situated, as the patient stood, about four inches anterior to the patella, and nearly opposite to it, and this lesion of the abdominal muscle causing a ventral hernia.

*Oct. 19th.*—I commenced a system of depletion by low diet, aloetic cathartics, diuretics, &c. &c.

*26th.*—She being still full of flesh, I bled to the extent of eight pounds.

*27th.*—One pailful of bran mash only. Pulse 28.

*28th.*—One pailful of mash and febrifuge medicine: then, having by an adjustment of large bandages and thick flannel with a compress of wool, and a steel truss of considerable power, &c. satisfied

myself of the certainty of any common pressure being sustained, I fixed on the 29th for the operation.

29th.—On this day she was not allowed to eat anything: pulse 28, and not very full.

Mr. Rolfe, of Harleston, Messrs. Walter and George Godbould, of Woodbridge, and my brother, Mr. R. Rush, of South Lopham, kindly gave their professional assistance, without which I should certainly have failed in the operation. I would here endeavour to impress on all who may attempt a similar operation, the imperious necessity of at *least* two *veterinary surgeons* to assist. I had four, and neither was for a moment idle, but busy rendering that assistance which none but professional men can efficiently do. Although a young practitioner, I make these remarks, because in reading your clearly described successful cases—(this letter was addressed to his friend, Mr. Simonds, of Twickenham)—I was not sufficiently impressed with the difficulty, from various causes, I should possibly experience.

I evacuated the bowels with enemata three quarters of an hour before the operation, and the bladder by means of a catheter, and gave her, a quarter of an hour after this, half an ounce of crude opium mixed with water.

At 3 P.M. she was cast on the opposite side to the one affected, with part of her bandages remaining. The head was secured to a post, and the thigh of the affected side, being brought as forward as was necessary for the relaxation of the muscles, was secured in that position by means of a side leather, and then fastened posteriorly by means of a rope.

I made the incision through the skin in the same direction as the lesion appeared to take, and cut carefully through the obliquus externus and obliquus internus muscles. In doing this a considerable superficial vein was cut through. It was immediately secured by ligature. An artery in the next incision was divided, and pumped its contents in our faces. By means of the torsion forceps, Mr. W. Godbould immediately conquered it, and we soon reached the lesion. Three interrupted sutures of the largest wire brought the edges in apposition, and sufficiently confined them. The mass of muscle I had divided was, with the skin, confined by four interrupted sutures of the same sized wire, and four intermediate ones of doubled thread. The compress was carefully fitted over the protruded ends of the wire, and, with the exercise of considerable patience, the largest and strongest bandage was placed in its proper position before the patient was released. The effect of the large dose of opium was a powerful assistant in preventing those violent struggles which so much alarm the operator and those around him, and which call for such prompt assistance.

After the patient had risen, we re-adjusted the bandage compress, &c. and put on the truss with an additional bandage, tied up her head to prevent her lying down, and gave a small quantity of gruel. The narcotic effects of the opium were visible until seven P.M.; her eyes were often closed, and seldom more than half open: she was as passive if we pushed her as an animal asleep would be. During the action of the opium her pulse never rose higher than 36 in the minute, but at eight P.M. it was 50, and much smaller.

I sat up with my patient during the night, and at intervals examined her pulse. It rose to 80 before five A.M.

30th.—I gave repeated small doses of liq. ammon. acet., sp. æth. nit., and spirit. camph. with gruel. There was no symptom of uneasiness; the bowels acted well; and though I used enemata, I might, perhaps, have done without them. I attribute this apparent anomaly (the want of effect of the opium) to her diet, which had previously consisted of bran. I allowed two large mashies. On the night of the 30th, I sat up with my patient, but no untoward symptom appeared; the pulse 80, and small.

Oct. 1st.—At noon I perceived a slight œdema under the body; the extremities were warm, but the pulse was small and quick. I gave vegetable tonics and two quarts of oats steeped with the bran.

2d.—The swelling is much increased. I gave more tonics and more oats with clover. The bandages were unfastened this morning, according to our mutual decision, and here I found evident mischief. The discharge from the wound was sanious, very fœtid, and the edges of the wound were unhealthy. I washed the part with warm water, applied some digestive ointment, and, having fomented the increased œdema, bathed it well with a mixture of sp. æth. nit., sp. vini et aqua. The bandages were applied looser, and she was fomented three times in the day.

3d.—Swelling increased. The mare falling off her appetite: extremities still warm, but not swelled. I gave tonics, interchanged with diffusible stimulants: her pulse was not increased, and the conjunctiva did not appear abnormal. She had gruel, and was courted by change of diet to eat; but the appetite failed again at night. I saw her again at night. There was evidently not much hope; no change for the better. I ordered fomentations, &c.

4th.—I saw her again: she appeared more lively, but the conjunctiva was of that peculiar purple hue without being much injected, which I had always considered as peculiar to gangrene. The wound was evidently gangrenous.

I went to Harleston, and Mr. Rolfe kindly returned with me, and saw my patient. He at once pronounced her to be too far gone, but removed the sutures—fomented still more with hot water—took



the bandages entirely away—and ordered port wine, bark, camphor, ammonia, &c. but to no purpose: the mischief was done. On the following morning, at four A.M., she suddenly jerked the halter I held in my hand, and fell, never to rise again.

What was the cause of death? A question this, difficult, perhaps, to answer. Were I called in to a similar case, I should probably pursue the same course, except that I might not tie the bandages so tight, nor keep them on so long before their removal, and yet I was here following the dicta of the best of our profession.

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[We feel exceedingly obliged to Mr. Rush for this interesting case. The candour with which it is related reflects on him the highest credit. He followed the suggestions of the best of our writers, and the practice of the best of our surgeons, when he gave a moderate tightness to the bandage, and suffered it to remain untouched as long as possible. He could not be answerable for any peculiar irritability lurking about the animal. He had secured himself against that as much as he could by the previous low diet and course of aperient medicine to which the patient was subjected. We recognize, in the history of this case, all the elements of good practice; and are assured that it reflects no discredit on Mr. Rush, or his brother veterinarians who kindly assisted at the operation.—Y.]

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### CONSULTATION, No. XVI.—RABIES.

Hamilton, N. B., 16th Oct. 1840.

Sir,

THE celebrity of your Lectures has caused you the trouble of this letter. A dog, which had strayed from a gentleman living in the neighbourhood of Paisley, about fifteen miles distant, of the Spanish kind, was seen by Captain Philipps, his nephew, in one of the parks of General Pye Douglas, of Rose-hill, Lanarkshire, where his milch cows were. The cows were observed to chase, attack, gore, and toss the dog. The dog also must have bitten them, as four shewed blood proceeding from bites about their noses. Capt. P. interfered to save the dog, and the animal shewed its gratitude for his protection, by fondling him and licking his hands. He led it afterwards to the stable, where it was seen and handled by several people; but it seemed ill, and died a day or two afterwards, as was thought from the bruises got from the cows.

A fortnight afterwards one of the cows was taken ill. The animal, from the description which I got, must have suffered from severe spasmodic attacks, for at times it seemed in great agony—its eyes



glaring and bowing its knees, &c.—it was killed. In another week another cow was seized in a similar manner, and its fate was similar; another fortnight has now elapsed, but no more of the cows have been seized. General ——— has asked my opinion about the dog; but my knowledge of canine madness does not enable me to decide, nor do I know any thing of this disease in the cow.

I am the medical attendant upon the family at ———; and having read your Lectures in the *Lancet* many years ago with much interest and pleasure, I came to the conclusion that you would not be offended at my asking your assistance, to enable me to answer the General's question.

Believe me to remain

Respectfully your's,

—————, Surgeon.

To Professor Youatt, &c. &c.  
London University.

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My dear Sir,—I am just recovering from severe illness—my friends, and myself for awhile, thought that it would have been a fatal one; and I have been wandering about in search of my pristine health. I mention this as an excuse for my seeming neglect.

I fear that the case which you send is too plain. *The dog was rabid.* Your omission of the period when they were bitten renders it impossible for me to say any thing satisfactory respecting the cows. The period of incubation of the poison is usually from two to four months. I have known it appear as early as the second week and as late as the twentieth after the bite.

The question of destroying these cows must depend on the time that has elapsed since the *mélée*, the condition in which they now are, and the value which the owner places upon them. The poison lies inert, and utterly harmless, for an uncertain and sometimes a long period; and it is not until the constitutional affection develops itself that the meat is at all injured.

On another point I must speak with more caution. You tell me that the Captain's hands were licked by this dog, after the disease had become developed upon the animal. Were his hands sound at that time? were they perfectly so? Has he sufficient recollection of the matter to speak decidedly on this point? Here is the painful part of your duty. The poison may rest inert during many a month; in fact, until some exciting circumstance or unknown cause may give it fatal energy, and the victim is irrecoverably destroyed.

You must here be left to the exercise of your own judgment; and I can fully appreciate all the horrible notions and fears that pass in your mind. Pardon another presumption. When, so late

in the day, I have occasionally been compelled to warn the patient of his danger, I have had a belief, in which I placed implicit confidence, that *the bitten part being EVEN THEN destroyed, there was an end to all danger.* And then—*the agent?* The nitrate of silver, sometimes without the knife, and always following it.

I have the honour to be, my dear Sir,

Your very obedient servant,

W. YOUATT.

Were any other persons bitten?

## ON THE RECENT EPIZOOTIC AMONG HORSES.

*By Mr. ROBERT READ, Crediton, Devonshire.*

THE pestiferous epizootic that has been making such destructive havoc among cattle, sheep, and swine in the upper counties of England, has not as yet visited the site of my neighbourhood; neither am I aware that it has done so in any part of the county of Devon: but within the last few weeks, the epizootic influenza has burst forth amidst our farm and hack horses, assuming a peculiar type or character, similar to that of the years 1836-7. There does not seem to be any dissimilitude in the premonitory or the recuperatory signs, which were defined at that time. Solitary cases have occurred in the interim between that date and three or four weeks of the present, when it became more general, and it is increasing rather than diminishing. Our farm horses that are not yet taken in from grass suffer, but are not more obnoxious to the pest than the hack which is better fed and stabled: both alike are susceptible of its influence.

I beg to offer a few remarks on its primary generative source. Whether it be an emanation, under certain laws, from the earth, or an active agency in the atmosphere itself, will be difficult to determine. This has been a dry summer with us, for we have had but little rain since the latter end of February, until within the last three weeks or a month. It is singular that, as soon as the rain set in, the influenza with energy developed itself.

There is no doubt that, for the healthy function of the soil, humectation is wanted, and its absence is the cause of unhealthy exhalations. Both extremes produce ill effects, equally visible on vegetable and animal matter. Exhalations from the earth may consist of either a free or uncombined venom, floating with the constituents of the atmosphere, or a mere mechanical mixture, located according to circumstances, and its degree of malignancy dependent on the component parts of the superficial or the deeper seated soil, in

conjunction with decayed vegetable matter and moisture. On this principle we may, in some measure, account for its not being more universal; for it makes its attack only here and there. If the atmosphere was universally empoisoned, its effects would not be so locally confined, and more animals would become infected; whereas it runs its course with two or three farm horses or hacks on one farm or in one stable, breaking out again in contrary sites, a mile or two apart; the intervening farms and stables remaining free.

This shews that the malaria capable of causing it is generated, not universally, but from definite situations, under certain conditions, and fluctuating in the atmosphere in detached parts or portions, and there being no visible indication of its presence.

To return to moisture: it is regarded, when stagnant on dead vegetables, as the frequent source of malaria, forming gases unfit for respiration, and of an heterogeneous kind, capable of producing diseases in the animal frame: and, no doubt, the influenza in horses—could but the eye discern this miasmatic vapour—would appear like cumulo-stratus clouds, wafted over hill and dale.

The effect of drought on the surface or superficial herbage of the earth is a deprivation or suspension of their natural juices, and inert, probably, in this state: a warm temperature with humectation follows; animal bodies are brought into existence, and mephitic vapours arise and empoison the air. This is a fruitful field for research and inquiry, and well may we say, let us

“ Search undismayed  
Nature’s dark profound, that works in secret.”

Vitiated emanations, whether arising from decayed animal or vegetable matter, produce disease in conformity with the resulting products of their decomposition. Measles, scarlatina, variola, &c., according to pathologists, have their own inherent agency or principle. Some, again, assert malaria to be the produce of diseased secretions arising from living vegetable matter in a state of disease. This may be a too limited speculation. It would be requisite to have a large area or space of diseased vegetable substances in order to maintain an empoisoned air; whereas moisture, on a soil not possessing an absorbent quality, would keep up, in conjunction with vegetable matter under the laws of inorganic or organic decay, an undeterminable evolution of noxious vapours.

An animal coming into contact with the aerial poison which produces the influenza, whether depasturing or in the stable, probably imbibes a portion, or, in other words, one of the constituents of the vital fluid has an affinity for it. The result will be a new compound or an uncombined agent—both injurious to animal life—going the round of the circulation, and, like most general or local

poisons, rousing the exhalent vessels to throw out a seriferous fluid in order to dilute or destroy the same. This is Nature's law to relieve herself.

Now, the earliest recognizable symptoms of influenza are a general stiffness and soreness, with a serous infiltration over the whole surface of the body, but becoming more apparent in the extremities, after a few days, from the influence of the law of gravitation. Sometimes, when the superficial exhalents of the body have not been acted on, the intestinal exhalents have been the means of carrying it off by spontaneous scouring. Now, whether the deleterious agent be gaseous, or produced by the infliction of some animal agent, Nature in most cases sets up an increased action of the serous or mucous membranes if it be a general poison. If a local one, there is an infiltration into the surrounding tissue inoculated with the virus, the object of which may be either a kind of safeguard, by lessening the action of the absorbents, or a means of diluting the poison. Dogs in the shooting season are often bitten by vipers; and I have always observed, that the sooner the part swells, the quicker the dog recovers, from the virus being either too much diluted, or the action of the absorbents retarded, and the poison decomposed. I have known horses destroyed by being bled plentifully after the bite of a viper, the swelling being mistaken for an inflammatory action; gangrene having been induced from it, when internal stimulants ought to have been resorted to. When the bitten part, either in horses or dogs, does not freely infiltrate with serum, strong local applications are necessary in order to induce it. It is an important question, as serum is thrown out in the infliction of most poisons, whether any agent, by the puncturing of the skin around the part bitten by a rabid dog, would destroy the malignancy of the virus. An experiment could be tried, viz., that of collecting the poison from the stings of wasps, &c., and arming the point of a lancet, and puncturing the part near the bite, thus inducing an artificial effusion of a serous fluid.

I am conscious that I am here digressing from my subject; but my object has been to prove that aerial and animal poisons tend to seriferous infiltration. When general, they, by means of the circulation, destroy the uniform compounds of the blood, producing an excess of serum; or when local, by a circumscribed injection of the same into the surrounding cellular tissue.

The *symptoms* of influenza, as it now prevails, are a general stiffness and soreness over the surface of the body, quickly followed by effusion under the skin, with capillary erection. From the second to the third day the legs begin to fill, and the injected vessels of the conjunctiva to relieve themselves by serous exudation. Sometimes, also, the serous fluid of the legs, by rapidly fill-

ing the vessels, distends the cellular membrane so suddenly that the animal evinces much pain, literally falling and rolling on the ground, and this being sometimes mistaken for cholic. The palpebræ close over the eye, and are tumid; the head resting on the manger, and the fore legs being placed apart from each other. There is also rambling in walking at the commencement of the disease, very often improperly treated for positive debility, when, in fact, it arises from a temporary suspension of volition, produced by cerebral disturbance. Now and then serous diarrhœa spontaneously arises, and, while existing on the animal, no further progress is made in the external infiltration, but it returns as soon as the diarrhœa ceases. The respiration is generally more or less embarrassed. Sore throat or defluxions from the nose have not been to any extent predominant. The appetite is precarious, and there is a vacillation of pulse in most cases.

The proper *treatment* of influenza consists in early and moderate venesection, guided in some degree by the pulse and general condition of the animal. If he is comatose, although with a pulse scarcely perceptible, bleeding will be of service; but venesection, after the legs are fully distended and a sero-purulent discharge distils from the eyes, is injurious. Warmth should be preserved on the surface of the body. Nitrous æther and liquor ammon. acetat. should be administered in doses of half an ounce of the former to two ounces of the latter, two or three times a-day. Cool mucilaginous drinks and a little good hay should be allowed; but preference is given by the animal to rough or dried withered grass, plucked from the hedges. Bran mashes, if too plentifully supplied, produce purgation, more especially if not freed from the wheaten flour; and, above all things, purgation should be carefully avoided. I have seen one drachm of aloes act as strongly under this disease as seven drachms in a state of health. In short, purgation is a poison in this complaint, even in very minute doses. When the animal begins to rally, the bitter tonics, combined with terebinthinated diuretics, and a more liberal diet, are the best restoratives, with moderate *exercise*. Very few horses die under this disease, if only common caution has been used in assisting and not perverting the laws of nature.

Although I have never lost a case of influenza out of hundreds that I have witnessed, many deaths have occurred through the improper treatment of grooms, smiths, and empirics: some have been bled and others purged to death. These all-knowing gentlemen sometimes confound it with phrenitis or staggers, and then the active measures which they adopt in order to subdue it have caused death in a very short period. After profuse bleeding, the *vis vitæ* has been so much depressed that Nature has made no attempt

to rally. On examination after death, the bloodvessels have been in a state of inanition. The active purges of from six to eight drachms of aloes, administered by these persons, produce ruinous consequences from super-purgation, the poor animal dying in a most pitiable state of exhaustion; yet these very men often boast of having purged the animal well, and abstracted a plentiful portion of blood; but, after all, they could not subdue the *inflammation*—a very apt term with them, in conjunction with *chill*, for nearly all the ailments peculiar to horses, with which these gentry are conversant.

From the rapid improvement which is now taking place in our profession, and the advancement of sound principles of pathology, ere long these pretenders will be discarded; and the owners of horses, becoming more acquainted with the nature of disease, will see the impropriety of entrusting valuable animals to such capricious and destructive management. There are some grooms, no doubt, better informed, and conversant with the common symptoms of an every-day disease; but when maladies of a peculiar type visit us—such as these epizootics—it needs the tact and assiduity of the experienced man properly to treat them.

## CASE OF STRANGLES.—ABSCESS IN ONE OF THE KIDNEYS, AND RUPTURED BLOODVESSELS.

*By Mr. W. A. CARTWRIGHT, V.S., Whitchurch.*

ON Sunday, the 26th July, 1840, I was sent for by J. Lowe, Esq. banker, of this town, to see a valuable five-year old carriage horse. I ascertained that he had been running out for many months at grass, and was becoming excessively fat; that during the last week he had been several journies of ten or twelve miles with the carriage, without having been previously prepared by physic or exercise; and that, from the previous Friday, he had exhibited symptoms of cold, and, two days before I saw him, was bled to the extent of five quarts.

*Symptoms.*—Those of ordinary catarrh—cough—sore throat, and difficulty of swallowing.

*Treatment.*—Throat blistered, and febrifuge medicine administered.

After suffering very much for upwards of a week, with obstruction about the larynx and pharynx, a great discharge took place “inwardly” through the nostrils, and he became relieved. The case then assumed the form of strangles, and a tumour arose between the jaws in the neighbourhood of the submaxillary glands,



and grew to a considerable size. At length it was opened, and discharged well; but, notwithstanding this, great obstruction remained about the throat; and, soon afterwards, it was evident that another abscess had burst into this, from the great discharge of pus therefrom. While these abscesses were discharging their contents, swelling commenced on the off side, apparently in the parotid gland. In a week after this, a hard lengthy tumour could be felt lying between the vertebræ and the parotid gland, and which was very tender. The parts were blistered, and occasionally poulticed and fomented. During this time, for a week or more, the mouth became very hot, with a great discharge of water and saliva therefrom, and a large vesicle formed on the side of the tongue; and there was great thickening on the side of the mouth, both internally and externally.

In another week these again subsided, and the horse fed better; but the tumour on the side of the neck continued gradually to enlarge, and made him roar whenever I pressed upon the parts, which were excessively tender. There was a peculiarity about the feeling of the part. To all appearance there were *two* abscesses, which is not by any means common; viz., the one deep-seated under the vertebra, and the other apparently in the parotid gland; but this will be explained in the sequel.

*Aug. 28th.*—The parts swollen had now assumed a formidable aspect, both in size and effect, and the tumour could be seen on the opposite side of the neck. It also affected his respiration, yet still he fed and swallowed tolerably.

The supposed tumour in the parotid gland did not at all come forward, nor point, but had more a puffy feeling under the finger, and extended up to the ear, and felt more deeply-seated; but the other at length began to point under the neighbourhood of the jugular vein.

*31st.*—I was now determined to puncture it, although there was very great danger of wounding the vein, which was buried in the general tumefaction. I therefore secured him with the twitch and two assistants, and thrust in the lancet, when the pus flew out to the distance of four yards. After getting as much out as I could, I dressed it with the lin. tereb., and ordered it to be fomented.

*Sept. 1st.*—Now commenced a new train of symptoms, referrible, to all appearance, to some affection of the spinal marrow, or more probably of the brain; viz., turning round and round in the loose box, in a direction on the off side, and a slight forcing of his head against the walls. When he was taken into the field he would also turn round on the same side, but he would take a greater scope. He also, about this time, was observed to curve his tail, and hold it forcibly against his haunches; and once, in particular, he shewed

internal irritation by cringing down till his belly almost touched the ground, and fairly squealing out for pain.

4th.—During the last three days the apparent cerebral affection became more violent: he would force himself forwards in the field during the paroxysms, in spite of the restraint of two men. Sometimes when we were pressing out any of the matter from the abscess, or applying the fomentations, or even when endeavouring to stop him, he would lift his head a great height, and occasionally throw himself down on his side. At other times, when in the box, he would force his head against the walls, rear up against them, and at length, he fairly pulled down the rack and manger. Last night we thought it prudent to secure him with the hobbles, and in the course of the day before I had abstracted about three or four quarts of blood, merely to lower the supposed cerebral excitement. This morning I inquired whether he urined pretty well, when one of the men replied “Yes, and it stinks enough to knock a horse down.” It was, however, of a good colour. I saw no probability of his getting well, and the owner shewed his humanity by ordering him to be destroyed.

*Examination.*—I first laid open the parts where the abscess had been, and found a mere empty sac, having several sinuses or tubes extending towards the vertebræ and head, under the parotid gland, but none of them near enough to injure the spinal marrow or brain. There was no other abscess forming any where about the neck.

I then laid open the cranium and cervical vertebræ, but found the brain beautifully sound, and only a slight blush on the spinal marrow. You may imagine my disappointment at the result of my prognosis.

I still, however, thought it possible that the stomach might have been over distended, and so sympathetically affect the head, and was resolved to examine it; but here the lot of man again followed me, for I found it quite empty. The formation of the stomach was unusual, and instead of there being a greater and lesser curvature, it almost looked like two distinct stomachs, having two curves in it, the villous portion being about the boundary of one, and the cuticular of the other, the opening between the two, however, being large.

On the villous portion there were, what I never saw in any case before, about two hundred circular spots distributed nearly all over it, of a whitish colour, and from the size of a pea to that of a sixpence: the secretion on them stood higher than the surrounding parts. On scraping the mucous secretion off the parts, there was still a distinct mark of a higher colour underneath, and the whole had the appearance of smallpox marks. If he had lived, it would have become ulcerated.

I now was determined to examine every part; and to my utter astonishment I found most extensive disease going on in the kidneys. On the near side this organ was much softened, and of a clay colour, and around it there was a great deal of lymph and serum: but the grand secret was disclosed by finding the off kidney, around and underneath which, and principally the latter, there was a mass of coagulated blood of the size of one's head. On examining the kidney, I found in it a large abscess, containing a great quantity of sanious matter, very different from ordinary pus; in short, I should say that this kidney was in a completely disorganized state, but more so around the abscess. I left the mass of blood and disease for the owner to see, and therefore did not examine it minutely.

The *liver* was diseased, being of a clay colour. The *bladder* was nearly full of urine; but I am sorry to say I quite neglected to examine its contents. I recollect, however, seeing a great deal of urine voided when he was dying, and which seemed nearly the same as in health.

*Observations.*—This is one of those unpleasant cases that occasionally happen in every man's practice, and which tends to stagger his faith in limiting himself to the ordinary symptoms in detecting disease, and might be the means of injuring the practitioner in the eyes of his employer. I had little or no doubt of finding some abnormal state in the cranial cavity or vertebral canal. At the same time it gives an excellent lesson, and perhaps may be a caution to look with a jealous eye on *every* symptom, however trifling that symptom may be; for the post-mortem examination explains those slight and trifling indications that were observed by us, and which were taken for nothing more than some irritation in the bowels, such as the occasional writhing of the tail, a little restlessness, and the one or two peculiar cringings almost with the belly to the ground, and which, perhaps, took place at the time of the rupture of some of the bloodvessels, and so causing pressure on the surrounding parts. All this, however, was very transient, and little thought of.

There was also the smell of the urine, but which was not noticed until a few hours previous to death. He had been voiding his urine a few days previously a little more frequently; but this was scarcely thought of at the time.

When he was walking out, there was no straddling in his gait; but he had a very great aversion to pass in or out of the box, through fear of the neck being touched, and would rush against the opposite door-post with the greatest force, in order to prevent it from being touched. The pulse, most of the time, was neither quick nor much different from a healthy one; and at the time I bled him

there was absolute indication of the necessity of it; but I merely abstracted the blood, in order to lessen any pressure on the brain, which I supposed might possibly exist.

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## DEFENCE OF THE OLD MODE OF TYING UP A HORSE AFTER BEING BLISTERED.

*By Mr. MAYER, V.S., Newcastle-under-Lyne.*

HAVING observed in THE VETERINARIAN for July 1839, the singular and unjust verdict arrived at by the jury, in the trial betwixt Hopkinson v. Thomas, to recover damages for a blemish occurring in blistering a horse, in consequence, as the jury considered, of the horse being improperly tied up with his head to the rack, instead of being reversed, thereby injuring the knee from striking it against the manger, I have considered it my duty to send you the following observations and case, in order to shew the marked injustice done to Mr. Thomas in that verdict.

I perfectly agree with you, Mr. Editor, that four-fifths of the veterinary surgeons pursue Mr. Thomas's practice, from knowing it to be the safest. I have been some years in the profession, and never, that I recollect, had a single accident or blemish from tying horses up to the rack under the effects of blister; but I have seen very bad consequences from reversing them in the stalls, independent of the great risk run in having the points of the hock injured and capped. The following case is one in point, and which, had it been done under the direction of a veterinary surgeon instead of the owner, and the latter had thought proper to have brought his action against him for damages, I do not hesitate to assert that the very same jury would have arrived at an opposite conclusion, and decided against the poor vet. because the horse was not tied up with his head to the rack.

It was a valuable hunter, belonging to Charles Ford, Esq. a well known thorough-going Cheshire sportsman, which, after the season was over, was cooled down, and blistered upon both fore-legs. Being a high-couraged horse, it was thought that he would injure his knees if tied up to the rack, so he was reversed in the stall, and fastened by the checks of the bridle to the stall-posts. While in this position, he made a sudden rush forwards, and receiving consequently a sudden check, his hinder extremities slipped from under him and he fell with considerable violence on one side upon the bare stones. The next morning he was perceived to be slightly lame in the hip. He was blistered a few days after-

wards upon the part affected, under Mr. F.'s directions, and turned out to grass.

In about a fortnight after the accident, he was found so lame in the field, that they had great difficulty in getting him home. My son was immediately sent for to go down to see him. He found him labouring under such an extent of sympathetic fever as threatened his existence, and so lame as to be almost immovable. On examining the hip, he ascertained that it was fractured, but to what extent could not then be known. Vigorous antiphlogistic measures were had recourse to, the general irritation and fever subsided, and all appeared going on favourably until the fourth day, when the animal relapsed, and died on the following morning.

On a post-mortem examination, the trochanter major of the femur on the near side was fairly shivered to atoms. There was a fracture right through the acetabulum, and also across the body of the ileum, which forms the floor for the mass of the glutei muscles to rest upon. On the same side another fracture extended through the symphysis pubis, and the ileum also on the off-side had received a corresponding fracture through its body, similar to that on the near-side, shewing most astonishingly what direful and extensive fractures may occur, not only from direct force operating upon certain parts, but likewise from the effects of concussion, and the irregular and powerful action of muscles directed upon parts unprepared to receive their impulse.

There was great extravasation of blood in the pelvis, from the bones having, after becoming displaced, lacerated some of the large bloodvessels; so that the animal died not only from the effects of irritative fever, but likewise from internal hemorrhage. I forgot to state, that when the horse was down it could not get up again, but when raised by the slings it could then stand.

This case is a valuable one to the young student, inasmuch as it shews that extensive fractures may exist for a fortnight, or I have known them for three weeks, without developing themselves, not being accompanied with either much pain or attendant inflammation and swelling, nor even much affecting progression; nor has its existence been capable of being detected until the animal has displaced the bones by its efforts in rising from its bed. I have even known horses with a fractured tibia travel a distance of three miles and back three times in a fortnight before the bones have been displaced. After this detail, Mr. Editor, I think you will agree with me, that if this poor animal had been tied up to the rack in the usual way, no such accident could have occurred; and that it clearly proves the old and general plan of that mode of fastening horses, under such circumstances, to be the safest and the most secure.

REPORT OF THE ROYAL AND CENTRAL SOCIETY OF  
AGRICULTURE OF FRANCE,  
AT THE CONCOURS OF 1840, SO FAR AS REGARDS THE MEMOIRS, &c.  
CONNECTED WITH VETERINARY PRACTICE.

*Commissioners* MM. DE GASPARIN, HUZARD, YVART; *and*  
GIRARD, *Reporter*.

[This Society held its annual meeting in the early part of the last spring. It was, until lately, the noblest association that the world contained, as being directly and deeply connected, or rather identified, with the agricultural and most important interests of the country.]

A society of the same character, but somewhat differently constituted, has lately sprung up in our country. It comprises the great and the good of every party. It is spreading its ramifications through every portion of the kingdom; and it promises to be the noblest institution with which our country was ever blest. The improvement of the veterinary art has, from its commencement, been one of its important objects, on account of its essential connexion with agricultural prosperity; and although at present, from circumstances which we can only regard with surprise and regret, the southern veterinary school is refusing to prepare itself for that important and ennobling connexion which might be so readily effected—although it seems determined that the veterinary pupil shall not, cannot acquire that knowledge of the diseases of cattle and sheep, and other domesticated animals, which his honourable acceptance and the well-being of the agriculturist demand, yet the time is not far distant when common sense and common interest will prevail; and in these public meetings, as well as in his private connexions, the veterinary surgeon will assume his true character, and contribute his share to the general weal.] Y.

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M. GIRARD reports of this "Concours," that the communications from veterinary surgeons have been more numerous than in any former year, both from the private practitioners, and their brethren in the cavalry service; and that the prizes awarded for communications of superior merit were far more numerous than at any preceding meeting. The subjects have been of an important character, and they have had a more direct reference to points of a practical nature.

The Reporter now gives a slight sketch, which we shall yet more abridge, of the communications of the different essayists.

*M. Mangin* sent an account of ten cases of pulmonary apoplexy, congestive pneumonia, and his opinion of the causes and treatment of this fatal disease.



*M. Jacob* treats on the contagious property of acute glanders, a somewhat new doctrine in France, but the frequent occurrence of which he maintains, although he still believes that sound horses may occasionally be placed with those that are decidedly glandered without becoming infected.

*M. Vaillot* sent an account of a horse said to be an hermaphrodite.

*M. Cros* relates five cases of blain in the ox, and one in which he supposes, wrongly, that this disease was propagated from the ox to the dog.

*M. Marsal* is sanguine with regard to the cure of glanders. His principal remedies are bleeding and setons.

*M. Santin* contributes a memoir on the tumours which appear on the knees of cattle, and particularly on those of cows. *M. Girard* says, that his remarks are sensible and judicious, and of so much the more importance, as the nature and cure of these tumours are strangely misunderstood.

*M. Santin* sends a second contribution on scirrhus enlargement of the prostate gland in cattle, a disease which has been often confounded with retention of urine from calculi, and inflammation of the bladder. He affirms that this affection is incurable, and advises the immediate slaughter of the animal.

A third paper is contributed by the same zealous veterinarian, in which he asks whether the horse, the ass, and the mule are the only animals in which glanders is spontaneously produced. He says that, instead of attempting to resolve this important question, the attention of the veterinary surgeon has been confined to the attempt at discovering a cure. The commissioners perfectly agree with him, that it is high time to inquire what it is that disposes him, and him almost alone, to the ravages of this disease. The nature and cause of this predisposition being once discovered, a considerable step would probably be taken towards a cure.

*M. Mazure* relates a case of eventration in a young mare, and is complimented for the simple but scientific way in which the process of returning and confining the intestines was conducted.

*M. Dard* communicates a long and most valuable paper on the prejudicial effects of low and humid pastures on cattle of all kinds. This is a subject often treated on, but he has placed many parts of it in a new and very important point of view. He particularly traces a connexion between the deleterious influence of these localities, and diseases of the eyes, and eventual blindness. Not merely simple inflammation of the visual organs is produced, but that specific and hereditary affection, to whose destructive agency, in the common management of the horse, there seems to be no bounds. One fact, however, he states, which deserves to be generally known,—colts born of parents of an acknowledged predisposition to blindness,

having removed to dry pasturage or a hilly country, are never attacked with this malady.

*M. Lecoq* has sent several records of important facts. Three of them relate to cases of inflammation of the womb in breeding mares. One case was complicated with founder in all four feet, and it was necessary to destroy the patient. The fourth case was one of incomplete paralysis of the extensor muscles of the hind legs, and which yielded to medical treatment. The fifth case had relation to a scirrhus enlargement of the sheath of the penis, the greater part of which was amputated. The sound portion gradually healed, and the horse returned to his work. The sixth case is that of a wound penetrating the chest of a mare. She perfectly recovered from the injury. The seventh, eighth, and ninth cases were those of neurotomy. They were all successful.

This indefatigable practitioner afterwards sent another collection of cases—five on paralysis, the greater part of which were fatal; two of spontaneous luxation of the ilio-femoral articulations; and others of equal importance.

*M. Poltier* records five cases of open joint, in which he had repeatedly applied a blister over the wound; in one, however, he was compelled to have recourse to the cautery, and in another the tincture of aloes completed a cure.

*M. Lacoste* sent an account of twenty cases—six of colic, three of hernia, five of palsy, and six of lameness of the superior portions of the fore legs. Of the six with colic, one patient died from its being connected with umbilical hernia. His account of the cases of hernia was exceedingly interesting. Partial palsy was treated by bleeding, purging, and the cautery; and, in general palsy, his chief dependence, but it usually failed him, was on emetics and strychnine. As for the lamenesses in the anterior extremities, antiphlogistic treatment and emollient lotions were generally useful, except when the affection had assumed a chronic form, and then setons and rowels were indicated.

*M. Delafond* selected the subject of wounds in the feet of horses from nails accidentally picked up in the streets. The consequences and treatment of wounds in the joints are sketched with a master's hand. A case of pulmonary hernia in the dog possesses much interest, and fatal rupture of the liver far too often comes under the cognizance of the medical man. The recital of the development of a polypous excrescence in each nostril of an ox closes his list of essays. These tumours were extracted one after the other—the bleeding was slight, and the cure was completed.

*M. Blavette* sent an account of the diseases of our domestic poultry. His essay will be found in page 649 of this volume.

In a second paper he gives a history of a mare, that, for

some inflammatory affection of the throat, was placed in a close pasture, into which two stallions broke, and dreadfully tormented her, for she was then at heat. When they were driven from her, she was evidently ill and distressed—a considerable œdematous swelling formed under the belly, and she died. The cavity of the abdomen contained from twelve to fifteen quarts of a reddish serosity, which covered all the viscera, and more or less discoloured them. There were also eight or nine quarts in the thoracic cavity, and the pericardium contained eight quarts more. These different portions presented the same colour and appearance. M. Blavette asks, whether this dropsical effusion, so remarkable, was to be considered as symptomatic, or essential, or consecutive, on the treatment which she had experienced from the horses. The third case is that of an enormous polypus extracted from the vagina of a cow. It was successfully amputated; the beast had no ailment from the moment of its abstraction: she soon afterwards took the bull, and in due time produced a calf. The fourth case was one of rupture of the diaphragm, in consequence of nasal catarrh in a horse—a most extraordinary case, and shewing the occasional violence of the cough.

There were other memoirs of great merit, and some veterinary works that were presented to the society. The effect of this on the improvement of the veterinary art is sufficiently evident. May the time not be far distant when we may be enabled thus honourably to occupy our peculiar department, and to contribute thus efficiently to the accomplishment of the excellent purposes of the Agricultural Society!

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## A CASE OF COMPLETE DISORGANIZATION OF THE LUNGS.

*By Mr. G. J. MARSHALL, Armagh, Ireland.*

Sir,—IN the numbers of your valuable Journal for November, 1834, and April last, are recorded two cases, by Messrs. Darby and Wheatly, of complete destruction of the lungs, the latter concluding by saying, “probably some of the readers of your Journal may have observed similar cases.” I beg, therefore, to send you the following case, which lately occurred in my practice. It is quite at your service, if you think it worthy of insertion in your next number.

*Aug. 13th, 7 P.M.*—I was requested by Mr. H., of this town, to attend a bay horse, four years old, which he said had been coughing for a day or two previously, and had been bled by a blacksmith

to the amount, he thought, of two quarts. On examining him, I found that he laboured under inflammation of the larynx and trachea, accompanied by a frequent and painful cough; the pulse about 60, and full; respiration rather hurried; no discharge from the nostrils. I commenced treatment with bleeding to nearly four quarts, when the pulse faltered. I next inserted a seton in the chest, and blistered the throat and along the course of the trachea, and gave tart. ant., digitalis, and nit. potass., in a ball, which was repeated twice in the day. I removed him into a cool airy box, with his body warmly clothed, and his legs flannel-bandaged. Regimen, green meat and linseed infusions.

18th.—Going on well; the cough has altogether left him, and he eats with tolerable appetite. Give only one sedative ball in the day, with which combine  $\mathfrak{z}$ ss of spt. nit. ether. The legs are œdematous. Give gentle walking exercise for a quarter of an hour.

20th.—He continues to improve. Add to the former ball rad. gent.  $\mathfrak{z}$ ij.

25th.—All going on well. Being obliged to go from home for a few days, I told the owner that what he now wanted was good nursing, and to have regular gentle walking exercise; but, as roaring is a frequent consequence of this disease, I recommended the application of a little blistering liniment to his throat, and which I accordingly applied. I left home that night on professional business.

28th, 7 P.M.—Having returned home, I immediately went to visit my patient, expecting to see great improvement, when, to my astonishment, I found him very ill; the pulse imperceptible at the jaw, respiration hurried, the extremities cold, with a dull, haggard appearance, plainly indicating the approach of speedy dissolution. He had got in my absence a small quantity of castor oil, and was purging. I immediately blistered the sides and chest, and gave sedative medicine, ordering him starch gruel to drink, in order to stay the purging. I, however, gave up all hope, and told the owner that he would not live until morning, and, when examined, it would be found that effusion had taken place to a considerable extent in the thoracic cavity.

30th.—He died.

*Examination seven hours after death.*—The abdomen, the peritoneum, and mesentery, were all highly inflamed—the large and small intestines, also, bore marks of inflammation—the kidneys were twice their natural size, and contained a quantity of purulent matter in their pelves, and they were both studded over with small abscesses containing a similar fluid. The liver was rather pale, and soft.

*Thorax.*—This cavity was completely filled with a yellowish

fluid, which I allowed to escape, in order to examine the lungs; but, to my astonishment, no lungs could I find, not even a portion—nothing but a quantity of fetid matter adhering to the bifurcation of the windpipe, and which bore not the least resemblance to the substance of the lungs.

In conclusion, I beg to say, that as I did not keep any notes of this case, I merely send you facts from memory. I am only sorry that this strange case has not fallen into abler hands than mine, so that it might have been fuller and more satisfactorily explained. Perhaps some of your numerous and talented correspondents have met with similar cases; and by the insertion of them in your widely circulated Journal, they will confer a great favour on me as an individual, and on your readers generally.

## CASES OF UTERINE DROPSY, &c.

*By Mr. J. RELPH, V.S., Sebergham.*

THE annexed cases may tend to elucidate the existence and treatment of uterine dropsy; an affection not mentioned (to my knowledge) by any of our authors.

On the 13th August, 1840, I went to Mrs. Jefferson's, of Greenrig, to examine a good short-horned heifer that had, during the last three weeks, evinced uneasiness in the pubic region, by frequently expelling fæces and urine, accompanied with too much straining. She was now much emaciated; there was a tendency to doze; little appetite; a frequent and weak pulse, and quickened respiration, especially when moved.

On examination per rectum, that viscus was found closely pressed to the spine by the distention of the uterus with a fluid. Thus perceiving that the disease was dropsy of the uterus, and convinced of the necessity of the immediate evacuation of the fluid in order to save the animal, I at once attempted with the finger to force open the os uteri, but met with such resistance from the contracted state of the vagina and strength of the os uteri, as induced me to relinquish the task until ung. belladon. had been applied\*. Half an hour after that, much relaxation took place, and the passage gave way with comparatively slight force.

A thin straw-coloured offensive fluid gushed out: she was al-

\* With a view to paralyze muscular action in difficult cases of parturition (particularly when premature), retention of urine, &c., I have for some years employed topically ung. belladon. with, at least, fancied benefit. My talented friend, Mr. Carlisle, to whom I communicated its use in these circumstances, seems to have practically verified my opinion of it.

Would it succeed in intestinal spasm?

lowed to lay down, and apparently several gallons were discharged. The uterus was then injected with a weak decoction of oak bark, with tinct. opii., camphor, and liq. calcis chlorinat. Medicine was also given to allay irritation and promote the excretions, and these followed by tonics, &c., a charge being applied to the back and loins. The uneasiness disappeared, and the appetite returned in a few days.

*Sept. 15.*—Recalled, on account of an abscess on the left of the sacrum, extending nearly from the tuberosity of the ileum to that of the ischium, underneath the fasciæ. A seton was passed, and not less than three pints of pus evacuated. Since then she has done well.

On the 1st of September I met with a similar case in a heifer belonging to Mr. Robert James, of Chalkside. She moved her hinder parts badly: the womb and its right cornu or horn were greatly distended.

The same process was again attempted, as in the former case; but the constriction of the vulva resisted the passage of the hand and on revisiting her next day, the state of the parts was quite as unpropitious.

Conceiving no other mode of evacuating the fluid with safety, on account of the intervention of the abdominal cavity between any other place at which the uterus could be punctured, and thinking that to force an opening there without the finger to direct the instrument would be highly hazardous, I requested the owner to send for Mr. Carlisle, V.S., who, on arriving, seconded my views, and induced a boy to introduce his hand into the vagina, and by whose exertions the passage was opened a little forward.

The sphincter muscles, from over-exertion and the administration of belladonna, were now considerably relaxed. I passed my hand, pushed the finger still further, and then completed the puncture with a whalebone staff, carefully guarded. The immediate ejection of a most nauseous fluid announced our success. A flexible catheter was passed, and a prodigious quantity of fluid escaped. The constitutional and local remedies employed were nearly similar to those in the first case; and the injection was retained in the uterus by corking the catheter, which instrument was kept in for thirty-six hours, to prevent union of the parts. A catheter, when thus used, should invariably be kept closed, except when the part is injected or ejected.

*3d.*—No straining—she lies down much—is stiff behind—the pulse small and frequent—little appetite—fæces soft, abounding with mucus. Give sedatives and demulcents, to allay intestinal irritation.



6th.—Rather better. Treatment continued; to be followed with cordials and tonics.

15th.—Much debility yet exists.

Oct. 3d.—The owner reports her quite well.

Dropsy of the gravid uterus seems to be no uncommon occurrence. I have also seen it follow metritis after parturition; but in both of these cases (and in another narrated to me) pain was manifested a few days after coition, by which process diseased action undoubtedly was excited in the organs of generation, and dropsy resulted.

## SPASMODIC RIGOR, OR A CASE OF SUCCESSFUL TREATMENT OF TETANUS.

*By Mr. C. S. GREEN, Fareham.*

ON the 28th of June in the present year, I saw a bay cart-horse, belonging to Mr. Binstead, of Portchester. He was labouring under considerable fever, in consequence of an abscess which had formed just above the antero-superior part of the near scapula. On examination, I found that there was a considerable quantity of pus, but it was deeply seated.

I had recourse to the usual remedial measures to abate the inflammation that was set up, and to bring the abscess forward. On the 30th, however, tetanus made its appearance—the jaws were quite fixed, and the animal was unconscious of surrounding objects. On applying pressure to the tongue, no feeling was evinced. The bowels were costive, although opening medicine had been administered on the preceding day. The horse was bled, a blister applied to the forehead and jaws, and several enemata injected. In the evening the bowels were slightly acted upon, and the jaws in a very trifling degree relaxed. He was come a little to himself, and sucked a small quantity of sloppy mash. The injections were continued at intervals during the night.

July 1st.—The jaws were still more relaxed, and the animal ate a little mash. The bowels were also freely acted upon; the respiration, however, was very much disturbed. The blisters were dressed, others were applied to the chest, and laxatives, combined with fever medicine, were administered internally.

3d.—The abscess broke—the bowels continued to be freely acted upon, but the respiration was still disturbed. I administered an aqueous solution of opium, and dressed the abscess and the blisters. The jaws were a little more relaxed.

By degrees he could better manage his mash, and ate a little hay; and on the 18th was turned out to grass, the muscles of the neck and jaw being sufficiently relaxed. The abscess likewise very speedily healed.

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## THE HISTORY OF THE HORSE:

BREEDING — HEREDITARY PREDISPOSITION. THE TOO EARLY AND TOO LATE PERIODS FOR BREEDING — THE WANT OF ATTENTION TO CERTAIN FAULTS IN ONE OR BOTH PARENTS. THE FEEDING AND MANAGEMENT OF THE FOAL—PURE AIR—EXERCISE—OCCASIONAL FAULT IN THE MILK OF THE MARE—WEANING — PROTEST AGAINST THE TOO EXTENSIVE DETERIORATION OF THE ENGLISH BREED OF HORSES.

*By Mr. G. BAKER, Reigate.*

[Concluded from page 595.]

HAVING now traced the history of the horse, with the many peculiarities practised by several nations, I shall conclude my subject with a few observations on breeding, and instance the remarkable circumstance in the history of malformations,—their not unfrequent hereditary occurrence in particular cases, and the disposition of certain animals to produce at the same time, or successively, an offspring affected with the same or somewhat similar defects, and this disposition not being confined to either sex.

The importance of attention to the subject of breeding will force itself upon the notice of all who are desirous that we should maintain the superiority of our national stock.

It must have been observed in the preceding pages, that wherever there was neglect, the breed proportionably deteriorated. The modern Italian horse is a striking instance of this fact; and we may observe, that whenever there was an importation of better blood into a country by conquest or otherwise, the national breed was sensibly improved. The foreign powers are now on the *qui vive*, all becoming alive to the importance of a subject, of which many never thought before. French agents have been actively engaged of late in Hungary in the purchase of horses until the government was induced to check the exportation. The immense plains bordering on the Theiss, where horses have wandered wild in a state of nature, have recently been rented by individuals, with the intention of turning to profit the best resources they afford. The court of Russia is awake to the necessity of attention to the important

consideration of breeding ; and the Grand Duke Alexander rivals the heir apparent of the King of the French in his interest in all that concerns the noblest and most useful of animals.

But important and interesting as this subject is, I fear that it much too often meets with neglect, more especially amongst our agriculturists, whose object seems merely the obtaining a foal, without any regard to those principles which would certainly render it a source of profit to themselves, or national pride in the improvement of the breed of this noble servant of man. Yet, surely, an object that embraces the more enlarged and comprehensive purpose of promoting perfection and preserving the bodily frame in the full and vigorous exercise of all its functions is entitled to our best and most earnest consideration.

Life has been defined to consist of a continued series of actions and reactions—ever varying, yet constantly tending to definite ends. Perpetual mutation appears to constitute the fundamental law of living nature ; and mortality, to which all the beings who have received the gift of life are subjected, is a necessary consequence of this law. The utmost solicitude has been shown in every part of living nature to secure the perpetuity of the race, by the establishment of laws of which the operation is certain in all contingent circumstances. The animal dies, but it is only to give place to other beings alike in nature and in form, equally partaking of the blessings of existence :

“ They fall successive, and successive rise.”

Although the phenomenon of reproduction can be only imperfectly analyzed, and its occult origin is enveloped in mystery, we are permitted to trace many of the subsequent steps in its gradual development ; and nothing can be more admirable than the progressive architecture of the frame. No part of the economy of animated nature is more calculated to lead our thoughts upwards, through the chain of cause and effect, to that world-producing Essence who alone possesses being immutable.

Leaving the mysterious impregnation of the germ, I will simply assert its vivifying principle to be a portion of the vital power of the parent, employed for the purpose of giving origin and birth to the offspring. As all the families of animals appear in a state of perpetual improvement or degeneracy, it becomes a subject of importance to detect the causes of these mutations.

*Felix qui potuit rerum cognoscere causas !*

A tendency to hereditary diseases and malformations in the sexual progeny of animals will be admitted by those who deny the hereditary descent of the diseases themselves. It is, therefore, rea-

sonable to conclude, that the sexual progenies of animals may be less liable to hereditary diseases, if the parents be of different families. This, I believe, is admitted by all who breed animals for sale; since if the male or female be of different temperaments—as there are extremes of the animal system—they may counteract each other: and certainly, where both parents are of families which are afflicted with the same hereditary defect, it is more likely to descend to their posterity. Thus we who are all concerned in the improvement of the sexual progeny of animals, see the necessity of attending—and especially, most especially, as regards the horse—to choose the most perfect of both sexes: that is, the most beautiful in respect to form and proportion, and the most freely endowed with those qualities justly esteemed most desirable. So strongly do I feel on this point, and so convinced am I, from my frequent communication with gentlemen who usually breed two or more foals yearly, that this has been much too lightly considered, if not entirely disregarded, that I cannot pass over this opportunity of recording the testimony of a few cases, as living proofs of the fallacy of breeding from imperfections: and as our profession now engages the attention of all connected with agricultural pursuits, and, in fact, most enlightened minds, and read, as I believe this our veterinary journal is, by many who, though not professionals, feel a most lively interest in the advancement of their sister science, I do humbly hope that the following facts may, in some measure, lead to a correction of this popular error.

I related a case in *THE VETERINARIAN* of August, 1838, of congenital blindness in a foal, arising from atrophy of the optic nerve. It was supposed by the owner, when I was requested to attend it, (then only a few days old) to arise from some affection of the head, for to him the eyes seemed good, although even from its birth it appeared totally unconscious of its near approach to any object, and when excited into motion blundered against any source of obstruction, running its head against the wall or the mare's legs, in such a way as to convince me that it was totally blind. However, for the details I must refer you to that number of our periodical, my object being only to shew that, although the mare herself had certainly good eyes, the horse was very defective; and of all the stock he got in this part of the country, not one colt escaped the direful effects of his imperfect vision.

There is another case of a mare belonging to Mr. Relf. She had been the subject of farcial enlargements and swellings, and, not being capable of performing much work, he tried to procure a foal from her, which in due time she produced. This foal soon after birth evinced symptoms of farcy, and died, when a few months old, glandered.

The same gentleman had also a very favourite mare, but dreadfully lame from navicular disease. He bred from her a filly that obtained the second prize at the show at Croydon, given by D. Robertson Esq., for yearlings: and certainly at this period she was a youngster of much promise. She was, however, lame occasionally, even before she was ever shod, and, although every care was taken with her, at five years old she could scarcely go even in soft land, across country, and was sold at Croydon fair for a few pounds. The mare was also a rank jib in single harness, and when her progeny was tried, she uniformly exhibited the like propensity.

As an additional proof, if it were wanted, I could relate another instance in a mare of Mr. Kenrick, of Bletchingly. I have the coffin and navicular bones in my museum now, and in the latter bones the work of destruction has sufficiently marked its diseased condition. Although it may be needless and also tedious to prolong this paper by the continued history of similar cases, I cannot avoid mentioning the fact of a mare, whose name I have forgotten, who in running a race on Epsom Downs some years since unfortunately broke her leg. Mr. Bond, a highly respectable and intelligent man, reduced the fracture, but ultimately the leg was crooked. She likewise bore a filly foal which had a deformed leg on the same side as the mare and with precisely the like curved inclination. I can speak also of a curious case of a pointer dog, the property of W. Turner, Esq., of Reigate, who got under the sweeps of a windmill when in motion, and was thrown a considerable distance, producing fractured ribs, and a most severe and lacerated wound on the side. It got perfectly well under the care of my excellent father-in-law, Mr. Edward Turner, although, of course, there was left an extensive cicatrix. A bitch afterwards had puppies by him, and all were marked on the side with similar lines of apparent scarification.

I will now speak of other circumstances to which I attribute the decrease of useful horses in this country. Some, from accidental causes or want of proper consideration, put the mare to horse at too early an age, and before she arrives at maturity; but many, far many more, fall into the no less baneful error of breeding from old and enfeebled mares. It is, indeed, too often that we find a proprietor of horses, who, when he has a mare incapacitated for work, is probably actuated by the most humane feelings, and has an unconquerable aversion to take away life while the mere bodily functions are carried on without impediment or distress: we find such a man come to the conclusion, that she can bear a foal, and thus remunerate him for her keep.

Now, we know that in the early periods of life all the powers of the system are directed to the building up of the frame and of the



different organs—to their extension, consolidation, and perfection, and to their adaptations to the performance of their several functions. The exertions made for the attainment of these objects are great, and commensurate with the magnitude and importance of the design, and they give rise to a rapid and varied succession of changes. An abundant store of materials is wanted for these operations; and although the consumption and renovation of these materials is considerable, yet the supply much exceeds the loss, and the body, accordingly, continues to augment in bulk.

In course of time these opposite processes of reparation and decay approach nearer to an equality, and, at length, are exactly balanced. The parts then cease to grow, the system has reached its maturity, and the object of the vital powers and functions is now to maintain it in a uniform condition of health and vigour, qualified for the exercise of all its physical faculties and powers. But, at length, there comes a season when the balance, hitherto so evenly kept, begins to decline. The powers of the system are less equal to the demands made upon them. A diminution of energy becomes evident, and the waste of the body exceeds the supply: yet Nature, as we see, does not altogether abandon her work. New arrangements are made, and new provisions resorted to for accommodating the system to these changes; but with whatever care the resources of the system may be husbanded, still the changes which are going on through the hand of Time, however insidious, are nevertheless real; nor must we evince disappointment or vexation should the foal, under these circumstances, exhibit an unkindliness in growth, and a corresponding weakness. There is scarcely an internal organ that does not sympathize and become altered by age, as well also as the external configuration.

Again, we too often err in disregarding the peculiarity of temperament in our system of crossing the breed—a circumstance most especially worthy of due attention and calm reflection. By temperament, I mean that greater or less degree of energy and irritability of the instruments of the vital powers. The bodily force depends materially on the nature of the temperament.

It is a fact, I believe generally admitted, that undeviating confinement to one breed, however valuable or perfect, produces gradual deterioration; yet we cannot dwell too anxiously on the judgment and reflection necessary to be exercised on the system of crossing. The most perfect of the same breed should be selected, but varied by being taken from different stocks.

It is by neglect of the application of sound principles and judgment in this particular that we sow the seeds of disease, and entail those miseries that consign many a young and suffering animal to an early end. It matters little what *points* of excellence



the horse may possess, unless the mare be likewise gifted, and in good health, as also of good breed, her offspring will not possess the value to remunerate us for the rearing of such an animal. From the form and good qualities of the horse we may anticipate much pleasure and profit; but these excellent points and qualities will not descend to the foal, which will be defective, simply from want of form or blood in the dam, particularly as regards hunters of the present day.

There, probably, may be somewhat more difficulty in selecting from what mare we should breed, rather than in fixing on the horse; but in both particular care should be taken to have good eyes, sound feet, and freedom from vice, such as roaring, defective legs, whether as regards ringbone, spavins, or curbs; for these will descend from either the sire or the dam.

I now come to the subject of FEEDING; and as this is a matter that brings me so immediately to the stable, I must earnestly impress on all the absolute necessity of a due regard to a perfect state of ventilation, and care in the construction of the building, so that a proper degree of light may also be admitted.

We know that the animal body is connected with the external world by digestion and respiration, it being through these processes that it derives the elements by which it subsists. Food and air are indispensable as long as life endures; and if either is withheld, or depraved in quality, or too scantily supplied, the animal languishes and dies.

The quantity of food deserves as much attention as the quality. It should be sufficient to repair the waste, and in the young to provide for the growth and development of the body, which in them, to a certain period, is progressive. Deficiency of sustenance leaves the body imperfectly nourished, checks its natural growth, and begets many and various diseases marked by debility.

Regularity of feeding is essential, as far as can possibly be practised.

Co-ordinate with nutrition, in its being essential to animal life, is respiration. It differs in some respects, that while food is required only at intervals, air is necessary every moment; and as regards its function, it is quality rather than quantity that requires attention. This is of the utmost importance, for if pure air is not breathed, health cannot be preserved.

Of injury from impure air, the colt is peculiarly susceptible.

The actions immediately essential to life are happily independent of the will, and we are thus far secured against the effects of indolence or caprice. Respiration, although not wholly an involuntary process, is so far independent of the will for its ordinary exercise, as to continue uninterruptedly, without effort, and even

almost without consciousness. Thus circumstanced and secured as its organs are by their compact and well-constructed mechanism, it might be conceived that this process, at least, might escape the evil consequence of heedlessness and error; yet no function of the animal frame has suffered more from the pernicious effects of folly and cruelty—effects, the reality of which it would be difficult to credit, were it not well attested by woful experience and daily observation.

It is a deeply interesting question to all concerned in the improvement of the breed of horses,—Can the qualities of the English hunter be produced in the Arab form, by breeding solely from the Arabian stock, and trusting solely to the difference of feeding for remedying the deficiency of size? This experiment is now under trial at Babolna. The system of feeding is precisely that of our racing stock. The foal is encouraged to nibble oats as soon as he can. There is no starving on bad pasture. He has the best of every thing in quality, but the quantity is fixed, and the food regularly weighed.

Major Herbert, when first appointed to his post, observed, that of the high bred foals produced, by far the greater number died when they had attained the age of four months. He pondered on this, and came to the conclusion, that it was owing to some bad quality in the milk, the result of the unnatural state in which the mares lived. His next step was to try how far the foal would thrive if removed from the dam, and fed on boiled carrots. It thrived to admiration; and now, the system being adopted upon all occasions, the mortality is one-fifth part less than under the old regime. I have also tried it myself with a foal I purchased of a gentleman in this neighbourhood—Mr. Pyne. The colt was with the mare six weeks when I bought it, and is now as perfect and promising as I ever saw one.

Attention to the difference of our climate from the native land of the Arab cannot be too forcibly impressed upon the notice of all interested in breeding from this noble stock. I knew a valuable Arab colt, the sire and dam of which were imported at great expense and trouble from the East, that was, some time since, entirely lost by continued exposure day and night in an unsheltered and damp pasture at a chilly season of the year, owing to the ignorance of the parties to whom it was entrusted. The result was atrophy and a gradual decline of all the vital powers, ending in premature death.

Gentle exercise during the period of gestation has a beneficial tendency; and with a proper and liberal allowance of food, particularly when the mare has advanced between four and five months (as it is about this period she generally, if at all, slips her foal)

will assist her very materially to secure the well-doing of her unborn offspring. She should be kept quiet, and apart from other horses; and if these circumstances are attended to, there will most generally be little difficulty attending her parturition.

When the period of her parturient condition is drawing near, she should be watched, and shut up during the night in a safe yard or loose box by herself, and, during the day, in a field where there are neither ditches, bogs, nor other dangerous places.

When this period is over, should the weather be favourable, she may be turned into a well-sheltered paddock; but if otherwise, must be kept in a large and commodious shed or cool box. Good grass is particularly beneficial, but should be brought in at night. She should also have corn night and morning.

Every care should be taken of the colt when young, for, as to its temper, much depends on its early education. A great many evil propensities may be traced to bad management when young. The colt, when weaned from the mare, should be turned into a loose box, where it may be fed on oats, bran, and boiled carrots. It should be haltered, and every means used to render it domesticated and tractable, so that it may be led about. Of course, should the weather admit, it should be turned out to grass a few hours every day, as this exercise will contribute much to its increasing growth and strength, but always brought in at night. It should certainly be well fed on corn. To improperly limit this while he is growing is highly injurious, and the animal will bear the traces of this mistaken practice, and be much reduced in value. It is an old but most true axiom, if an animal does not pay for keeping, it does not for starving.

To whatever cause may be attributed the decrease of useful horses in this country, whether poverty or want of knowledge on the part of breeders are separately or conjointly concerned, most certain it is, that a good horse may be bred at a cost quite as low as one of an inferior description. Still we must regret the paucity of good horses that are now bred, and trust, by a more enlarged and comprehensive view of this important subject, that greater attention will be paid to the pure and proper selection of sire and dam, and a better adaptation of the one to the other. We shall then meet with fewer disappointments in finding so promising a mare with so faulty a foal, or the no less vexation that so promising a colt should grow into so weedy and useless a horse.

My ultimate object in this and the preceding observations is, to deduce the plain and practical truth, that if we are desirous to perpetuate a race of high bred and enduring horses, we must carefully select for purposes of breeding the most perfect of either sex, in the vigour of life, and free from any imperfection that may by descent be a blemish in their progeny. It was usual for the Spartans

to expose to perish all deformed or misshapen children ; a cruel and heathen practice, which was nevertheless a mighty engine in rearing up a nation of physical power.

I have elsewhere alluded to the arbitrary enactment of Henry VII and VIII, empowering local magistrates to put to death all mares beneath a certain standard. A more merciful and enlightened policy should be the characteristic of an age where civilization is making such rapid advances.

I must now conclude with apologizing for the length to which my interest in the subject has induced me trespass on the pages of your Journal. "In every work regard the writer's end;" and in these pages my aim has been to raise and uphold our national superiority in a branch of art which is of interest to all ; I will, therefore, only add from Camerarius a quaint description of all the perfections of which a horse should be possessed.

"It should have three parts like those of a woman : the breast must be broad, the hips round, and the mane long. It must in three things resemble a lion : its countenance must be fierce, its courage must be great, and its fury irresistible. It must have three things belonging to a sheep : the nose, gentleness, and patience. It must have three of a deer—head, leg, and skin. It must have three of a wolf—throat, neck, and hearing. It must have three of a fox—ear, tail, and trot. Three of a serpent—memory, sight, and flexibility. And, lastly, three of a hare—running, walking, and perseverance.

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## A DIFFICULT CASE OF PARTURITION IN A MARE, AND ONE OF ŒSOPHAGOTOMY IN AN ASS.

*By Mr. T. HARSLOT, of Cooladangan, Arklow.*

ON the 15th April, 1837, I was called to attend a mare belonging to Mr. John Doyle, of Ballymonis Rathdrum, county of Wicklow. She had been ill three days previous to my seeing her. She was suddenly taken ill while at plough, and was within three weeks of foaling. A smith was first sent for, who said that she was bad with cholic, or something worse, and he could do nothing for her. When I arrived, I found that they were labour pains under which she was suffering, and that she would soon foal. I thought it right, as she was so long before her time, and seemed to suffer so much, to examine the state of the uterus ; and I found the two fore-feet presenting, with one hind leg thrown across them, under the breast ; and every effort made by nature to expel the fœtus threatening the laceration of the uterus. I also ascer-

tained that the foetus was dead. I was, therefore, obliged to have recourse to the knife, with which I took off the hind leg at the hock. I then found that the foal was much swollen, and had to take off the entire fore-leg and shoulder; and, lastly, I was compelled to introduce a sharp-pointed bistoury, and remove the intestines, when, with some exertion, I drew out the remaining parts; after which, she was greatly exhausted, and fainted. I then gave her the following draught:—Tinct. opii ʒv., brandy ʒiv, and aq. pur. ʒviiij, which allayed the straining, and enabled me to clean out the uterus. At the expiration of an hour, the pulse began to rise with much rapidity, and I took away ten pounds of blood.

16th.—I abstracted eight pounds more of blood, and gave ℥j ol. ricini.

17th.—The pulse had again risen, and I withdrew six pounds of blood, and gave the following draught:—Tinct. opii ʒij, tinct. assafoetid. ʒss, sulph. magnes. ℥ss., aq. pur. ℥j.

18th.—The pulse had subsided to 45. Keep her on gruel and mash diet.

19th.—She was convalescent.

Three weeks afterwards I was called to the same mare. She had dreadful straining at the vagina, and I feared that the uterus was diseased. I introduced my hand, and I suppose must have broken into some cyst, for a large quantity of yellow matter came away. I bled her, and gave her a laxative ball. She recovered, has since had a foal, and has been stinted again this year.

On June 10, 1835, I was called to an ass, the property of the Rev. Mr. Harris, of Elton Arklow, county of Wicklow. He was choking from a potatoe in the gullet. I tried the probang and screw, but without success. I then cast him, and cut down on the potatoe, and removed it; after which I sewed up the wound, and ordered him gruel. In fifteen days he was fit to work, and still lives, not in the slightest degree the worse for what he suffered. There was nothing peculiar in this operation, except that I believe him to be *the first* of his species on record, on whom œsophagotomy has been performed.

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[There are several instances on record of the performance of œsophagotomy on the mule and on the bull. The Editor of this periodical once performed it with success on a ram. The crop of fowls is often opened with good effect.

A French journal gives a very interesting account of this operation. It was practised for the removal of a tumour embedded in the parietes of the œsophagus. A ram had, without any apparent cause, been ill during several days. He was rapidly losing flesh, and, during the last fortnight, had vomited the greater part of the food which he gathered in the pasture. A veterinary surgeon, M. Dandrieu, was consulted. The animal now began



to shew symptoms of slight hoove, which increased when he endeavoured to swallow his food or to ruminate. The alimentary pellet did not re-ascend to the mouth until after repeated efforts, and it had imbibed a great quantity of fluid, which was rejected from the mouth. Deglutition, also performed with great difficulty, was followed by a hoarse cough.

The œsophagus, the course of which, as far as the thorax, was carefully examined, presented at its entrance into the thoracic cavity a hard, indolent tumour, as large as a pullet's egg, and which had caused this obstruction to the passage of food in either direction.

An operation was resolved on. The animal was thrown on his back, and his four legs tied together. A longitudinal incision was then made through the skin, in the direction of the course of the œsophagus, and which brought to light a fleshy membrane, ecchymosed, and of a livid colour. Beneath it was a scirrhus tumour, very hard, projecting into the œsophagus, and which the operator easily isolated and removed. At the end of fifteen days the animal was perfectly cured.] Y.

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## ON THE TREATMENT OF OPEN JOINTS.

*By Mr. C. S. GREEN, V.S., Fareham.*

I READ with great pleasure the late communications from some of your correspondents on the treatment of open joints, and I have been induced to add my mite. It is thus alone that the object which we have at heart—the onward progress of our profession—will be secured. The cases that have come under my notice have been opened carpi and tarsi, with some of the navicular joint.

Where they were attended, as they usually were, with a great discharge of synovia, my practice has been, first to cleanse the wound with tepid water; after which I cut away such of the lacerated parts as were not likely to unite by the healing process of nature, being careful, however, not to destroy more than was absolutely necessary, for that would render it so much longer before the animal was fit for ordinary duty. I then dressed the wound with the compound powder used by Mr. Morton, and made as follows. Take equal parts of calcined sulphate of iron, powdered alum, and myrrh. Apply the powder to the wound with some tow, and place a pledget of tow over the whole: confine it by a flannel bandage moderately tight, and let it not be disturbed until the third day. I prefer a flannel bandage, on account of its elasticity, having found that where much pressure is used, without this yielding principle, the inflammatory action is increased, and extensive swelling, and perhaps sloughing, is the result—both of them evils very difficult to eradicate. The swelling should be fomented with tepid water several times during the day. The bandage should likewise be frequently wetted with the liquor plumbi diacet. dil. as described in Mr. Morton's Manual of Phar-



macy. When fomentation is necessary, great care should be taken not to allow the water to come into contact with the surface of the wound, for it always adds to the synovial discharge.

Venesection should be resorted to, according to the state of the patient; but it is essential that the bowels should be kept moderately open. The healing process of nature is always much assisted by this.

On removing the first dressing, wipe the wound clean with dry tow, and dress it with the compound powder already recommended; after which the dressing should be applied every day, or every second day, according to the circumstances of the case. This must be left to the judgment of the practitioner. I never allow any thing wet to be applied to the wound after the first dressing.

By adhering to this mode of treatment, I have met with considerable success; indeed, it has only failed me in one case, and then my patient was more than twenty years old. Finding that I was not succeeding, I had recourse to the treatment recommended by Mr. Hodgson in the March number of *THE VETERINARIAN*, and by means of this a cure was effected.

## OBSERVATIONS ON AN ARTICULAR WOUND HEALED BY THE FIRST INTENTION.

*By M. JUSTINE FERDINAND MAZURE, M.V., à St. Mère Eglise.*

ON the 11th of October, 1839, I was sent for to see two carriage horses that had sadly beaten and mutilated each other during the preceding night. One of them was bruised in almost every limb, but, as the blows fell on the muscular parts, little mischief was done. The other, among many other places, was kicked on the inside of the right hock, two inches above the place of spavin, directly in the middle of the tarsian articulation, and at the place where blood spavin makes its appearance. There was a little wound running transversely across the hock, an inch and a half long, and some lines in width, and penetrating into the interior of the articulation. There was but little lameness, and the hock was not swelled; indeed, there was little time for this, for it was five o'clock in the morning when this skirmish took place, and I was soon on the spot. A very little blood had escaped, nor was there any heat or tenderness; but a considerable quantity of synovia was beginning to be discharged, which was recognized by its oily appearance, and its coagulating as soon as it had escaped from the articulation. The

opening was very small, but the synovia flowed from the slightest pressure; and even pressure on the outside of the hock would cause it to spirt out from the wound. This evident lesion of the synovial membrane, proved by the escape of the fluid, induced me to prognosticate very unfavourably with regard to the wound. Violent inflammation and great enlargement of the hock, and of which it is very difficult to produce any resolution, are the usual consequences of opening its articular cavity.

*Treatment.*—As no inflammatory appearances had yet presented themselves, I prescribed absolute rest and refrigerant lotions; and I placed a man behind her, to keep the part constantly wet with the lotion. The lotion was composed of salt water, to which vinegar and lead were added. I had, at first, some idea of bleeding from the saphena vein of the injured leg, and should have done it, but a few days before I had, at the request of the owner, bled both these mares: I, however, determined to extract blood from the plate vein, but in despite of pressure above the opening, and all other means, I could not obtain any blood from this vessel. I then tried the anterior cephalic, but with no better success. I next opened the jugular, and obtained what quantity of blood I desired. After this, and notwithstanding a caution from the owner, I had the imprudence not to pin up the opening of the plate vein. The day passed over, and no blood proceeded from this orifice; but at half past eight at night when the coachman was about to give them their last feed, he found her covered with blood, and which flowed in a stream behind her. A servant was despatched for me in great haste, and on my arrival I found her very feeble and covered with a cold sweat, although still on her legs. The bleeding had stopped before I could reach her.

The pulse was imperceptible, and the respiration exceedingly laborious. I now took especial care to close the orifice, and ordered some good gruel to be prepared, which she immediately drank. No medicine was given, but we trusted to wholesome yet not too abundant food to restore her to her former condition. I feel it a duty to record this inexcusable neglect. It is often practised by the farrier and the empiric, and I have practised it myself, without any bad consequence resulting; but I have now received a good lesson, which I shall never forget.

About the middle of the first day after the accident, the discharge of synovia suddenly stopped, and appeared no more: we continued to apply the lotion which had been ordered at the beginning. I made a point of seeing her during the first eight days after the accident, and in all that time not one inflammatory symptom developed itself. There remained a very slight swelling over the opening into the hock, but there was neither pain nor heat, nor

the slightest degree of lameness. The lotion was still applied, not indeed, constantly, but four or five times every day, until the enlargement had entirely subsided; and then she was dismissed.

Notwithstanding the unfavourable prognosis which I had felt it my duty to give respecting this case on my first visit, and my unpardonable fault afterwards, I esteemed myself happy, and I was indeed rejoiced to restore to the owner his mare in as good and serviceable a state as before the accident. In fifteen days after the occurrence of the accident she was able to resume her former labours.

I afterwards asked myself, to what cause could I attribute the absence of inflammation in the joint after so serious an injury? Rightly or wrongly, I have explained it in this way. Powerful refrigerants were continually employed on the injured part, and almost immediately after the accident; but, more especially I think, the accidental and strangely copious bleeding to which the animal was subjected was the principal if not the only cause of her escape.

## THE PECULIAR APPEARANCE OF THE LIVER IN TWO HORSES.

*By Mr. J. TOMBS, V.S., Pershore.*

*Feb. 18th, 1839.*—I WAS requested by Mr. W. of F——y, four miles hence, to superintend the post-mortem examination of an old black mare of his. She had been unwell three weeks, according to the owner's statement, but underwent no medical treatment, being old and nearly worn out. Three days prior to death she had frightful œdema of the head; and the day before she gave up the ghost her tongue swelled tremendously, and hung out of the mouth. She had been broken-winded for many years.

*Appearances.*—The carcass had such an abominable stench that it was almost impossible to approach it. There was effusion of serum between the skin and cellular tissue of the head, tongue, and lining membrane of the sinuses of the head, which were in a gangrenous state. The lungs were very soft in texture, discoloured, and considerably diminished in size; the air-cells not ruptured, as is generally supposed in broken-wind, but very much enlarged and thickened. The heart was wasted to about half its usual size, and was very flabby; its parietes were so exceedingly thin that it was surprising how the blood could be forced into the lungs, much more to all parts of the body. The omentum was black and rotten. The

mesentery diseased, and the intestines in contact with the liver were altered in colour.. The liver, as well as the lungs, was strangely diminished in size, of an extremely dark colour, and emitted an awful stench: when taken into the hand it crumbled to pieces like a bit of dirt. The liver appeared to be the primary organ affected.

This mare worked until a fortnight before she expired.

CASE II.—The appearances after death, of a horse, thoroughbred, five years old, that died glandered in 1836, after taking large doses of iodine, cantharides, and sulph. cupri, not in combination, but at different times are here related.

The nasal, frontal, and maxillary sinuses were full of pus. Four gallons of red water were in the thorax; the pleura was gangrenous; the lungs tuberculous; the mesentery terribly diseased; and all the lobes of the liver, excepting the large one, of a dark clay colour, and quite rotten.

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## A CARNIVOROUS HORSE.

A FEW days since, a flock of sheep, belonging to Earl Lovelace, were turned into a field at East Horsley, and on the following morning two were found dead, and their flesh very much torn; a few mornings after, another was found dead, with the flesh also torn. The shepherd, suspecting it to be a dog who had committed the slaughter, was determined to watch for him: he did so, but to his utter astonishment saw a horse, belonging to a person named Lucas, that was in the field with the sheep, attack them, kill one, and eat part of the flesh. The circumstance was made known to the owner of the horse, who paid the value of the sheep destroyed in this extraordinary manner.

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## A PECULIAR AFFECTION IN SHEEP, IMMEDIATELY FOLLOWING SHEARING.

*By Mr. J. GUTTERIDGE, V.S., of Ross.*

IN June last, my attention was directed to the sheep on three farms in my neighbourhood. There were eleven ewes on one of them, seven on another, and fifteen on the third; all of them affected with a very peculiar disease, and which the proprietors were naturally fearful would spread through the rest of the flock. It appeared either in the night after they were shorn, or in the course of the following day.

The first symptom was usually great swelling of the hind legs, the udders, and the under part of the abdomen ; giving, as some of the shepherds called it, the appearance of a boot, blackened and polished. Some of the ewes were not able to stand, and several died before the disease was recognized.

I had them brought under a warm shed or into the barn, and gave to each a gentle dose of aperient medicine, and had them well fomented with warm water as far as the swelling extended. This favoured the process of suppuration, and as soon as the enlargement pointed at any particular spot I opened it with my lancet, and continued the fomentation, adding, in some cases, a little chloride of lime to the water, for the ulcer was very foul and fetid. I administered inwardly mild tonics, and allowed my patients some ground oats, with cut hay, clover, &c.

All this was caused by the unthinking shepherd turning them out immediately after they were shorn. At an early period I will send you the full particulars, for I consider the case a very interesting one.

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[We trust that our correspondent will not forget his promise, for it is, indeed, an interesting case.—Y.]

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## ON LAMENESS OF THE FOOT IN A COW.

*By the same.*

I WAS lately desired to examine a very fine cow, that had been lame in the foot during the last nine months, and attended by a country cow-doctor. He had almost persuaded the owner to have her killed, who, however, withheld his consent until I had seen her.

After much consideration, I recommended the operation of neurotomy. If you will kindly give me your opinion of the case it will be done. Your advice will be followed.

The case stands thus, so far as I was able to get at any history of it. About last November, the cow fell suddenly lame, and on examining the foot, a piece of glass bottle was found stuck between the claws. Some oils were applied, but of what kind I could not learn.

The cow was turned out instead of being kept in and properly attended to. Foul in the foot was the consequence, and this beautiful animal was kept in the most excruciating pain for many months.

There is now a little offensive matter oozing from between the

claws, with a considerable enlargement in the front of the foot, about the size of an egg, and which is very hard. It seems to be a bony deposit. The cow is as lame as ever.

I am very sanguine with regard to the operation, although I am in the same situation with far too many of us—and a most shameful one it is—of never having seen it performed. I have, nevertheless, your valuable works on Cattle and Sheep. I have the owner's consent, and, if you deem it advisable, the attempt shall be made.

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[I, of course, most strenuously advised the operation, the description of which, and of its results, now sufficiently ascertained, would be most valuable.—Y.]

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## ON CROUP IN YOUNG CATTLE.

[I am not aware of any English veterinarian who takes notice of this affection in cattle. Descriptions are given of inflammation of the larynx and trachea and bronchial tubes; but not of that inflammatory state of some or all of them which occasions or terminates in the discharge of a viscid mucous exudation, or the production of a false membrane, of variable size and density. We are indebted to M. BARRERE, *V.S. at Lavardac*, for two interesting cases of this disease. Some of our readers may, probably, be able to increase the list.—Y.]

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INFLAMMATION of the mucous membrane which lines the respiratory passages sometimes presents very singular characters; and it is on account of this peculiarity that the inflammation has received a denomination little expressive of its character, but which usage has nevertheless sanctioned.

This malady, which has been supposed to be very rare among animals, without doubt because it had been little observed, and perhaps also because it was confounded with some other affection of the respiratory canal, is more frequent than is generally imagined. I beg to relate two palpable cases of it.

CASE I.—On the 27th of March, in the present year, a heifer, fifteen months old, in good condition, of an irritable temperament, with frequent and painful cough, was uselessly treated by the owner with inefficient gruel and white drinks.

29th, 9 A.M.—Some alarming symptoms began to shew themselves. The animal had lost all its spirit—the cough was painful and frequent—the respiration difficult—the nostrils dilated—the tongue half protruded from the mouth, covered with a white foam,



and yielding to the slightest touch—the head and the tail extended in a horizontal direction—the croupal *râle* slightly heard. On applying the ear to the front of the chest, a mucous murmur could be distinguished, while, on exploring the posterior part of the chest, a wheezing respiration could be heard, although not very distinct. The artery was distended, and the pulse small, wiry, and rapid.  $2\frac{1}{2}$  kilogrammes, or about  $5\frac{1}{2}$  lbs. of blood were subtracted—emollient fumigations and injections were ordered and a little gruel only was allowed. This appeared to afford some slight relief.

5 P.M.—Suffocation threatens every moment—the croupal *râle* is now distinct enough, very much resembling the sound of a reed-pipe—the flanks are agitated—the respiration difficult—the mouth and horns hot—the ears cold—the sides of the chest tender—the eyes of the colour of fire—the vessels of the conjunctiva injected—the arteries again distended, and the bowels costive. Two kilogrammes, or about  $4\frac{1}{2}$  lbs. of blood were withdrawn—the animal was no longer able to support the fumigation—it drank with difficulty, or, at least, experienced a great deal of uneasiness after swallowing any fluid. A decided good effect was produced by the bleeding, and, some hours afterwards, the croupal *râle* diminished, and the night was calm, without any of those fits of threatened suffocation.

30th, A.M.—We found in the manger a croupal false membrane  $4\frac{1}{2}$  inches in length, and nearly an inch in circumference. The beast was tranquil during the rest of the day, but, towards night, and without the slightest warning, the inflammatory symptoms returned, accompanied again by threatened suffocation. She was bled afresh, and the blood was suffered to flow until the animal staggered. Some groans began then to mingle with the breathing, and the beast lay down, but kept that position only a short time. The night passed in alternate calmness and fits of agitation.

31st.—The inflammatory stage seemed to be approaching its termination. The cough remained, but the croupal *râle* diminished—the respiratory sound in the lungs became more sonorous. Two setons were inserted in the chest; gruel with nitre was given, and injections with the hydro-chlorate of soda.

April 1st.—There is very considerable weakness—the respiration is difficult and stertorous. Very little irritation is produced by the setons, therefore turpentine frictions are practised on the sides of the chest. Emollient fumigations are now borne. The bowels are opened.

2d.—Respiration is yet laborious, nevertheless the animal takes some food, and drinks water when offered to him. The bowels continue satisfactorily relaxed.

3d.—The croupal *râle* has completely disappeared, rumination is re-established, and the natural spirits are returning.

8th.—The beast has perfectly recovered.

CASE II.—A heifer, sixteen months old, in good condition, but of delicate constitution, began to cough on the 2d of May, and continued without treatment until the 16th. In the afternoon of that day, she suddenly became worse—her spirits were gone—the cough had become stertorous and suffocating—the respiration laborious—the nostrils dilated—the mouth hot, or half open—the tongue hanging half way out and covered with foam, mingled with some albuminous flocculi—the eyes were red and fierce, and the vessels of the conjunctiva injected—the artery distended—the pulse accelerated, and the croupal *râle* decided. A bleeding of two kilogrammes, or about 4½lbs. was abstracted, emollient fumigations ordered, and gruel with honey. The animal remained composed during the day, but in the course of the night two fits of threatening suffocation occurred.

11th.—At six o'clock in the morning, the beast was seized with an exceedingly violent attack. The respiration was extremely difficult—the cough violent—the croupal *râle* very strong—partial sweats appeared on the head and about the shoulders—the limbs stiffened, and by a violent effort of expectoration a false croupal membrane, nearly eight inches in length and five in circumference, was expelled. Immediately after this she lay down exhausted, and passed the remaining part of the day undisturbed.

12th.—The difficulty of breathing has altogether disappeared—the appetite is returned; rumination is perfectly executed, and the animal is cured.

The false croupal membranes obtained from these animals are deposited in the museum of the society. They are of a pale red, composed of several laminæ placed one upon another, and some portions curiously rolled upon the rest. They separate easily from each other; but the resistance is considerable when it is attempted to tear them.

Of the causes of this disease I confess that I know very little; but it perhaps is not useless to remark, that croup was at that time very prevalent among infants, and that a great many of them died.

*Journal des Vétérinaires du Midi*, Juillet 1840.

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Professor Gohier, then of the school of Lyons, and whose works are inferior to none in the present day, has some valuable observations on CROUP. He gives an interesting account of a case of it in a horse.

“On the 12th of March, 1809, at eight o'clock in the morning,

a gelding was brought into our infirmary," that of Lyons, of which M. Gohier was then professor. "The person who brought it said that at six o'clock on that morning the horse appeared to be perfectly well; but that at seven o'clock, the time at which they were fed, he violently coughed several times. On examining him he found that there proceeded from his mouth and nostrils a large quantity of spumy and vermeil-coloured blood. On inspecting that which had fallen on the ground, he found among the clots a membrane, four inches long, with very irregular borders, and which was torn with considerable difficulty. There were also several smaller pieces. I preserved these several years.

"When he arrived at the school, it was supposed that he had lost nine or ten pounds of blood; the hæmorrhage, however, was beginning to abate; the pulse was small and rapid—the head depressed—a dry cough—the membranes pale—a slight discharge of saliva—prostration of strength, but little or no difficulty of respiration.

"In consequence of his weakness I gave him a decoction of gentian root in gruel, some emollient injections, and half his allowance of food.

"13th.—Considerable cough, abundant discharge of saliva—the legs beginning to swell. The same treatment.

"14th.—A slight swelling of the sub-lingual lymphatic glands on the right side—a discharge of fluid matter, but clear, from the nose on the same side—swelling of the lips, and of the larynx. The same treatment.

"15th.—The weakness increasing. Insert vesicatories under the chest. Medicine continued, and food increased.

"16th.—More discharge of saliva—the cough less violent—considerable enlargement where the vesicatory had been employed.

"17th and 18th.—A little suppuration at the place of the blister—the respiration yet free—return of appetite. Omit the gentian and the injections.

"19th.—The nostrils very much engorged, especially on the right side. The enlargement extends to the lips—the submaxillary glands diminished.

"20th.—The swelling about the nose was gone—the pulse was more developed. At half past nine a considerable hæmorrhage ensued, which lasted until two o'clock, insensibly diminishing. At half past two o'clock a more than usually violent cough expelled a clot six inches long, and corresponding with the form of the division of the bronchi. During the hæmorrhage the animal drank, at different times, water in which alum had been dissolved; but this drink seemed to augment the violence of the cough. At eight

o'clock the hæmorrhage re-appeared. It bid defiance to every effort to arrest it, and the animal died at nine o'clock.

"The right lobe of the lung was perfectly sound—the left lobe slightly inflamed. The bronchi on that side contained a little clotted blood. At the superior and back part of the windpipe there appeared ten or a dozen little rounded ulcers, from which the blood seems to have proceeded. There was nothing of the kind in any of the bronchial passages. It would seem probable that these ulcers resulted from the detachment of the false membrane of which mention has been made.

"I do not affirm that this is an undoubted case of croup, although when I trace it from its commencement, the separation and expulsion of the tracheal membrane is favourable to this supposition. It may, however, be a simple case of hæmoptysis. Still it is a curious case, and stands alone."

Professor Gohier was anxious to ascertain the causes of croup. It was produced by epidemic influences: of that we had daily proof. It was sometimes connected with the existence of some pulmonary or tracheal affection; but was it attributable to the causes which many imagined? Could it be produced by art, or was it the consequence of some pungent gas existing in the stable?

He placed in a small stable, in a low situation, three horses, a mule, an ass, a sheep, and four dogs; and then tried what effect would be produced by filling it with oxygenated muriatic gas. When the gas was sufficiently developed, he shut the door and the windows. A man could not have remained in the place two minutes, yet, with the exception of one dog, who coughed several times because he laboured under pulmonary catarrh, not one of these animals exhibited the slightest symptom of croup.

On the following evening the sheep died. He had been castrated the night before the experiment.

On opening him, there was no morbid appearance either in the trachea or the viscera; but the spermatic cords were partly gangrened, as was also the internal lining of the scrotum, in which there was a considerable quantity of clotted blood.

In the morning he repeated the experiment; but the quantity of the substances employed was doubled—the muriate of soda, sulphuric acid, and oxide of manganese, and care was taken that sufficient heat was employed. All the dogs coughed a little, particularly the one that had pulmonary catarrh. The monodactyles did not appear to be in the least annoyed. The ass and the mule fed during the time of the fumigation, although it was so strong that we could scarcely see on entering the stable, nor could any of us remain in it more than a minute. Two hours afterwards all the animals appeared to

be as tranquil as they were before the experiment. On the following morning we killed the ass for anatomical purposes. The trachea was in its perfectly natural state.

A fortnight afterwards I injected into the larynx of the four dogs that had been the subjects of the preceding experiments a small glass of water acidulated with a fifteenth part of sulphuric acid. They began to shew how much they suffered immediately after the injection was made, although, notwithstanding our precautions, only a very small part of the liquid had reached the larynx. Two of them coughed a great deal, and one of them began to vomit. One hour afterwards they were quite tranquil. We watched them four hours without perceiving any thing remarkable about them. In the evening they had their usual spirits, and as good an appetite as usual. During several days nothing remarkable occurred.

These last experiments seemed to prove that it was not so easy as some believed to produce croup in the quadruped. They also proved how much the danger had been exaggerated of leaving animals in places where this or similar gases were developed. It is very probable that in many cases these fumigations would be more salutary than injurious.

So croup is more easily cured in quadrupeds than in the human being? The most interesting point of this malady is, doubtless, its treatment. Dr. Saissy has tried on numerous animals various methods of cure, and he has arrived at this conclusion:—

1. That animals to which croup has been artificially communicated die if they are abandoned to the power of nature alone.

2. The greater part of the remedies vaunted for curing natural croup produce no good effect on artificial croup.

3. Quinine in substance, seconded by an infusion of mint, triumphs over the disease when artificially produced.

4. Finally, the success of the quinine has led to the belief that this tonic, assisted by mint—preceded or accompanied by vomits, vesicatories, sinapisms, and revulsive measures generally—does a thousand times better in the essentially acute croup which attacks the human being, than the *POLYGOLA SENEKA*, the *rattle-snake root*, ammonia, and any of the other medicaments whose power is found so often to fail.

But will this method of proceeding suit the larger animals? Experience alone can decide this question. I am inclined to think that, considering the actual state of our knowledge on this point, the rapid march of the disease, and the difficulty of recognizing it in its early state, and when alone there is any certainty about the matter, the animals that will serve for the food of man and are attacked by croup well characterized should be delivered to the butcher. Their cure is, in effect, exceedingly uncertain, and there is nothing

that will lead to the supposition that their flesh can be unwholesome, since the disease is plainly a local one, and, in general, does not, in the slightest degree, taint either the muscular or visceral system.

Beside the remedies above mentioned, ablutions of cold water on the regions of the trachea, or blistering, or cauterizing that region, is useful.

With regard to the solipedes, as no advantage can be drawn from sacrificing them during their illness, perhaps it would be well to try the operation of tracheotomy, and even, if it be necessary, to open the trachea in more places than one, in order to be able with properly constructed forceps to seize and separate the inorganic membrane attached to the internal surface of the larynx or the trachea. This operation would be equally necessary for ruminants, if the owner was unwilling to destroy them. Although this has often been attempted in the human being, and always without success, that is no sufficient reason why we should absolutely reject it with regard to the inferior animals.

It is certain that if we could, by means of an opening made into the trachea, detach the membrane which more or less obstructs it, we should prevent the suffocation of the animal, or the bleeding, which is often the result of its being torn away by the violence of the croup. In a case already desperate, and when neither the reputation of the man nor the art can be compromised, it is better to attempt an operation the success of which is uncertain, than not to do any thing at all.

At least, by more earnest attention to this disease some of us, perhaps, may be able to discover its true cause, as well as its different varieties, and to adopt modes of cure more certain than those I have described\*.

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## ON SINGEING THE COAT OF THE HORSE.

*By Mr. W. TITCHMARSH, Bishops Stortford.*

AT the commencement of the year 1838, I submitted to my professional brethren an instrument for the purpose of shortening the coat of the horse, by singeing, or the application of flame. The instrument is so formed as to press down the coat, a comb following, above which is a grove containing cotton that is to be moistened with naphtha, then ignited, and quietly drawn over the coat. By repeating the operation occasionally the coat may be kept at any length the owner may deem requisite.

It is a fact well known to those who may have the care of horses,

\* Gohier on Veterinary Medicine and Surgery, vol. i, page 360.



that they can perform double the work required of them, and with greater ease and comfort to themselves, when the coat or hair is reduced to about that length in which it is found upon them in the month of July, than they can with the lengthened coat which nature has given to them as a protection from the rigours of winter, but which protection is not required in the present domesticated state. The hunter with a short coat returns to his stable after ever so fatiguing a day, and is dressed and comfortable in a very short space of time: while the long coated one, on the contrary, continues in an uncomfortable state for several hours, in defiance of rubbing and clothing. The perspiration saturates the clothes, and renders the atmosphere damp and unfit for him or any horse to breathe. It rapidly throws him out of condition and predisposes him to disease.

When clipping is resorted to, and the horse is taken as much care of as a hot-house plant, it is productive of considerable advantage: but the clipped horse who has not this care taken of him, from the sudden exposure of the skin—the functions of which are so important in the animal economy—becoming suspended, is very liable to become seriously diseased, and particularly to have fatal affections of the lungs.

I consider singeing to possess the following advantages—the taking off a small portion, and, at the same time, sealing up the pores of the skin, and preventing the access of cold. It is also a very great economy in the application of shortening the coat.

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[We have seen this singeing apparatus, and think that it deserves a fair trial.—Y.]

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## A CASE OF DIVISION OF FLEXOR TENDONS.

*By Mr. H. DAWS, London.*

MANY horses are annually destroyed in this metropolis, after being subjected to much cruel and unnecessary treatment by blistering and firing, without any relief being afforded, for morbid contraction of the flexor tendons or (qy ?) muscles.

Numerous cases, both successful and unsuccessful, of the division of the tendons for the relief of the disease have frequently appeared in THE VETERINARIAN, much to the credit of our country correspondents. The following case came under my notice some time since.

*Feb. 12th, 1840.*—A piebald horse had been affected with chronic contraction of the right hind leg, so much so, that at every

## 744 CASE OF INTESTINAL INFLAMMATION IN A MARE.

step the animal took the anterior part of the fetlock-joint came in contact with the ground, producing an ill-conditioned abraded surface. His heel had not touched the ground for upwards of two years, and the horse had been repeatedly blistered by the owner, to no purpose. This day the owner consulted me, and I recommended a division of the perforatus and perforans tendons, which was performed in the usual manner, midway between the hock and fetlock, on the same day.

Upon rising after the operation, the heel came immediately down to the ground. The tuft of hair at the posterior part of the fetlock touching the ground, a patten shoe was applied to the foot for some time, and its height gradually diminished.

The wound in the leg did not take on quite so healthy an action as I could have wished, much sloughing ensuing; ultimately, however, it did well. A bandage was applied to the leg for six weeks after the operation, by which time the wound had completely cicatrized.

*April 12th.*—No difference in the gait can be detected. He walks and trots well. He took a moderate quantity of exercise daily, and, soon afterwards, was turned to a straw yard for two months.

The horse is now in regular work. There is no appearance of the former complaint. It is not at all perceptible.

The cause of failure of this operation in many instances, may, I think, be attributed to the owners of the animals being too eager to work them before a solid bond of union has taken place between the ends of the divided tendons.

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## CASE OF INTESTINAL INFLAMMATION IN A MARE.

*By Mr. J. WOODGER, V.S., London.*

[The Editor has no alternative. He may introduce some alteration, or, as he supposes, improvement in the style of the communication; but he must express the sense and meaning of the different actors in the case which he narrates. He has done so here; and if the reader wonders with great amazement, the fault is not his.—Y.]

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ON November the 4th, 1840, at seven o'clock in the morning, I was sent for to look at a brown mare. She had been at work the day before; ate and drank as usual, and was apparently in good health. When she was fed this morning, she ate a little, but

when the water was offered she turned from it in disgust. The man came directly for me.

I found her very uneasy, but not so much so as to cause any immediate alarm. The pulse was between 36 and 40, full and hard. I considered it to be some intestinal complaint—probably a fit of colic; and I administered a pimento draught. At half past eight o'clock I repeated it, and then, having other business to attend to, I left her.

At 11 o'clock she was lying down, and apparently worse. My assistant then saw her, and administered another pimento drink.

At 12 o'clock I saw her, and the respiration and the pulse were decidedly quicker. I bled her to the amount of six quarts, and gave her one pint of linseed oil, two drachms of aloes, one ounce of tincture of opium, and an enema of soft soap and water.

At 7 o'clock she was no better. I bled her again to the amount of five quarts, and repeated the drink.

5th, 7 A.M.—The pulse is 50, but weak; she was more uneasy than before, and was continually lying down and getting up again immediately. I bled her again to the extent of six quarts, and at 11, at 3, and 7 o'clock, I repeated the pimento draught. I also blistered the abdomen with tincture of cantharides.

6th.—I now began to have considerable fear respecting my patient; I therefore saw the owner, and told him what I thought about the case. He asked me if I had any objection to Mr. Bracy Clark seeing her, as he was a particular friend of his. Mr. Clark attended at 11 o'clock, and I was there when he came.

He went up to the mare, and put his finger into her mouth, and then said that we had got it to a very nice point, but the case would terminate favourably. I did not think so, for my opinion was altogether different. He said, that we had only to decompose that poisonous oil. To accomplish this he first gave warm water with soda dissolved in it. He then got four eggs, and beat them into a mass with barley meal, and gave them in the form of balls. In the afternoon she was ordered to have another pimento drink.

7th, 7 A.M.—She was much the same, and another pimento drink was given.

At 11 o'clock Mr. Clark visited her again, and said that she had got well of the gripes; but the oil, if not got rid of, would certainly destroy her.

Having no hope of her myself, and happening to meet my friend Mr. Fenwick, I mentioned the case to him, and we walked together to have a look at the patient. Mr. Fenwick went a very different way to work from Mr. Clark, in order to examine and form his opinion of the mare; and finding the pulse to be more than 80, and there being other unfavourable symptoms, he predicted that she would not live long. He told the owner he imagined that the

disease originated from some obstruction in the intestinal canal, such as dung-balls or calculi; and added, that no power could save her. The best means to accomplish this had been tried, and he quite despaired of her.

8th, 8 A.M.—The breathing very laborious—the abdomen hard, and much distended. The pulse was 84. At half past eleven A.M. she died.

9th, *Post-mortem Examination*. — Present Messrs. B. Clark, Fenwick, Woodger, and the owner. On laying open the abdomen, the peritoneal covering of the colon and cæcum shewed general inflammation of the peritoneum. This was also the case with the stomach. The mucous coat of the colon and cæcum were also highly inflamed, and the colon was filled with hard undigested food. Mr. Bracy Clark told the owner that the oil had killed the mare. Mr. Fenwick said that if oil had killed that mare it ought to have killed hundreds, for he had given it in such cases for the last forty years.

## THE VETERINARIAN, DECEMBER 1, 1840.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE course of lectures for 1840-41, at the Royal Veterinary College, at St. Pancras, commenced on Monday, the 2d of November. The introductory Oration was, as usual, delivered by the Head Professor, Mr. Sewell. His lecture, although resembling that of the preceding year, possessed considerable novelty. His early history of the horse had some originality and merit, and the illustrations which he gave of the recent improvements in the treatment of his various diseases had no little interest. The liberality with which he spoke of the improvements and discoveries of the pupils of the school was peculiarly pleasing when compared with the half-praise or cold approbation frequently bestowed on the same works by Professor Coleman. There was, however, one fault, one omission, which we much regretted. All that was said of other animals beside the horse was comprised in two short sentences, and *they did not contain the slightest pledge that the maladies of these animals would ever receive the attention which they deserved*. This was in very bad keeping; but it was consistent with the course

which he had pursued during the last session, in which, with the exception of a few slight and unsatisfactory glances at the diseases of sheep and cattle, only *three lectures* were, during the whole of the session, devoted to this all-important subject.

On the afternoon of the same day, the first meeting of the Veterinary Medical Association was held, a Report of which will be given in the January number of the next year.

On the afternoon and evening of the 3d of November was held one of the most important meetings of veterinary surgeons that ever was convened: an account of it is given at the beginning of this number of THE VETERINARIAN. We allude to it with regret, because it unfolds, in the powers that be, a system of disregard for the profession, and a degree of contumely, for which we are unable to account.

The Memorial of the Veterinary Surgeons, as given at page 193 of the present volume, has reference to four important subjects—the obtainment of a charter to protect the qualified members from service in certain parochial offices, and to enable them to check the pretensions of incompetent and uneducated men—the better remuneration of the lecturers, or, in other words, an increase of the admission fee—the shorter or lengthened residence of the pupil, according to his previous advantages—and the appointment of a competent lecturer on cattle pathology.

On one of these points alone did the Governors condescend to bestow the slightest notice, and that notice was couched in terms of no little ambiguity. “This Committee,”—the Committee of Governors—“do not see the immediate necessity for applying to the Crown for a Royal Charter, to be granted to this institution; but every facility will be given to the veterinary surgeons for procuring an act of parliament to prevent certain grievances complained of by the Memorial, and which could not be relieved by a charter.”

The Memorialists, in reply to this sweeping assertion, naturally and calmly request some explanation of the ambiguous expressions used by the Governors with reference to the charter; for they say, that they have it from undoubted authority, “*that they could not go before parliament until they had obtained a charter of incorporation.*”

Then, leaving these questions of law, they remind the Governors that there were other most important points contained in the Memorial—three especially; and they inquire why the Governors had not vouchsafed to bestow on them the slightest notice.

The Governors, thus pressed, return the same loose and equivocal answer with respect to the charter; but on other matters they, for the first time, speak, and speak plainly,—“They saw no reason to alter their opinion, which they had formed on very mature consideration, as to the subject of the recommendation as to the increase of the lecturers and the sum paid by the pupils;” but “there will be a meeting of the Examining Committee on the following Wednesday, July the 22d, at which the subject of the Memorial will be laid before them for their advice; and when that is received, a meeting of the Governors will be convened to determine thereon, and the result will be communicated to the Deputation; *but it is impossible for them, at this season of the year, to say when the meeting will take place.*”

Here it will be requisite to recur a little to dates.

On the 10th of June the Governors met a Deputation from the profession. They record in their “Proceedings” a strangely ambiguous opinion as to the charter, and they express in terms sufficiently definite their disapprobation of an increase in the number of lecturers or the fees exacted from the pupils. This took place on the 10th of June, and is recorded in their *private* proceedings. On the 3d of July they transmit to the Deputation their opinion as to the charter; but they say not one word on the other points, although their decision on them had been requested equally as on the other points, and that decision was already entered in the records of their proceedings. It was not until the 16th of July that the information *was conveyed to the Deputation*. Then mark the curious concatenation of circumstances.

On the 10th of June it is entered *on the Proceedings of the Governors*, that they do not approve of “the increase of the Lecturers or the fees paid by the pupils.” This is an act of the Governors, and *without reference to or recommendation by the Examining Committee*. On the 18th and on the 25th of June the Examining Committee assembles at its usual place of meeting, and determines on the competency or incompetency of certain students.



*There is no official consultation with regard to any thing else.* But Mr. Mayer now begins to be troublesome. On the 9th of July he tells Mr. France that he wishes to know what is the resolution of the Committee upon these points; and then Mr. France, or the Governors, begin to look around them and consider what is to be done, and how they shall meet or how they shall delay the question. What question? That on which, “upon very mature consideration” “they had seen no reason to alter their opinion?” Yes! even so.

On the 22d of July was another examination of pupils, and at a most lucky period of the year, for it was just when the town was beginning to get empty. Were the fees and the lectures subjects on which the opinion of the Examining Committee should be required? Most certainly. The application to them would be exceedingly proper, and the result valuable; yet, from the beginning of March—for the Memorial was then in the hands of the Governors—to the middle of July, the usual examinations take place, and the Governors act as it seemed to them meet; and “upon mature consideration,” they diminish the fee, and they refuse the wished-for lecturer. At length, this sad plague, Mr. Mayer, is determined to obtain an answer, and he takes a stand from which it is rather difficult to dislodge him. He says, that the Memorialists “feel and believe that no progress can be made in veterinary science, or the profession at large benefitted, until the whole of the propositions contained in the Memorial are carried into effect, and for the accomplishment of which they feel it their duty to use their best exertions.” It is not Mr. Mayer alone who is acting this decided part, but the whole 315, or now approaching to 400, unite in one chorus, “So say we all of us.”

The Governors, or some other persons, hear this distant swelling chorus; and although, from March to July, they had pursued their determined reckless course, they now begin to pause. Many a time, from March to July, had the Examiners met in the discharge of their arduous duties; but not one doubt was raised on these all-important subjects until now. Read the letter of Mr. France, of the date of the 16th of July:—“There will be a meeting of the Medical Honorary Members of the College on Wednesday next”—why, there had been half-a-dozen from the time that the Gover-

nors had been in possession of the Memorial, if the opinion or public sanction of the Medical Examining Committee had been deemed at all necessary—"when the subjects of the Memorial will be laid before them for their advice: when that is received, a Committee of the Governors will be convened to determine thereon, and the result will be communicated to you. It is impossible for me, at this season of the year, to say when the meeting will take place." No "result" has yet been "communicated." I will not add another word on this point. The whole subject is too farcical and contemptible.

Whether the Examining Committee sat in conclave deep on this evening of the 22d of July, or what was the result of the consultation, we know not. That subject will soon come before us. We regret to say, that the evil is unabated. It is unabated, although there is always a sufficient number of the Governors, residing in or near the metropolis, to form a quorum. The winter is come, and the lectures have commenced on the new and inefficient plan, without the slightest communication with the original Deputation since the middle of July.

The Deputation has, in our opinion, acted with great discretion and good feeling. Although they represented the decided majority of the profession, and that majority has been rapidly increasing, there has been no expression of defiance, no angry remonstrance, *no allusion to certain questions of right, or certain weak or untenable points connected with the College*; but they are still anxiously awaiting the promised communication. They would fain rest on one assurance,—that, when the question lies with the Examining Committee, they are in honourable hands. They have, indeed, in no slight degree strengthened their position by the appointment of a standing committee to watch over the interests of veterinary science, and carry out, with a spirit of good temper and good feeling, every thing that may tend to the farther advancement of their art.

With one exception, they could not have devised a more honourable and a surer method of accomplishing their object than their proposal with regard to the Examining Committee; and there is not one of *that* body who does not deeply feel the justice of the claim. It is, in the present advanced state of veterinary science, the deep feeling of the profession, that a limited number of veterinary sur-

geons should be added to the present Examining Committee. We want not to displace one of those to whom in former years we were much indebted. We feel how much value may and does result from their patronage and interest. Still we like not to be excluded altogether from our own house. We have the vanity to think that we should be somewhat better judges than the human surgeon or physician can ever be of the indications and treatment of diseases in our patients, now become so numerous, and of the actual capacity of him who has to attend on them. As a boon and as a right we demand admission to that board, which, in our present improved state of knowledge, we should never disgrace.

Last of all, for no factious purpose, from no hostile feeling towards the present or future directors of the Veterinary College, but as a bond of union among ourselves, as well as the most effectual security of our professional interests, a ballot took place for the appointment of a "Standing Committee" to watch over the general interests of veterinary science, with power to call a general meeting of the Memorialists, in order to effect any important object that may arise; and, it is added, "in conclusion, your Deputation sincerely trust that these and all other points connected with the interests of veterinary science may be considered and carried out in a spirit of good temper and good feeling, and that they may tend, as they ardently desire, to the farther advancement of veterinary science."

This, indeed, is a consummation devoutly to be wished; and if it is delayed, or in some degree diminished, it will never be from the captious feeling of the members of the veterinary profession, but the blame will attach to, and the punishment will fall on, those who wish to subject them to a system of contumely, oppression, and disgraceful persecution to which they will never long submit.

Y.

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## R E V I E W.

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Quid sit pulchrum, quid turpe, quid utile, quid nou.—HOR.

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ORGANIC CHEMISTRY *in its applications to Agriculture and Physiology.* By JUSTICE LIEBIG, M.D., Ph.D., F.R.S., M.R.S.A., translated by LYON PLAYFAIR, Ph.D.

A WORK replete with interesting matter. In the preface the author informs us that, at one of the meetings of the chemical section of the "British Association for the advancement of Science," the honourable task of preparing a report upon the state of organic chemistry was imposed upon him, and this work is a part of that report. He, farther on, observes, that since the time of the immortal author of the "Agricultural Chemistry," no one has occupied himself in studying the application of chemical principles to the growth of vegetables and to organic processes. The path marked out by Sir Humphry Davy he has endeavoured to follow, because he based his conclusions only on that which was capable of inquiry and proof. This is the path of true philosophical inquiry, which promises to lead us to truth—the proper object of our research.

The work is divided into two parts. The first is devoted to the examination of the matters which supply the nutriment of plants, and of the changes which these matters undergo in the living organism. The second treats of the chemical processes which effect the complete destruction of plants and animals after death, usually described as fermentation, putrefaction, and decay, or *ere-macausis*. It opens with some useful truisms.

"The continued existence of all living beings is dependent on the reception by them of certain substances which are applied to the nutrition of their frame. An inquiry, therefore, into the conditions on which the life and growth of living beings depend, involves the study of those substances which serve them as nutriment, as well as the investigation of the sources whence these substances are derived, and the changes which they undergo in the process of assimilation.

"The primary source whence man and animals derive their means of growth and support is the vegetable kingdom. Plants, on the other hand, find new nutritive material only in inorganic substances."

After reviewing the constituent elements of plants—carbon, hydrogen, and oxygen—and shewing the relative proportion they bear to each other, thus giving rise to the different proximate principles, he observes of nitrogen, that, estimated by its weight it forms only a very small portion of plants, but it is never entirely absent from any part of them. Even when it does not absolutely enter into the composition of a particular part or organ, it is always to be found in the fluids which pervade it.

The statement, that on the presence of *humus* depends the fertility of soil, is combatted by him.

“ The opinion that the substance called *humus* is extracted from the soil by the roots of plants, and that the carbon entering into its composition serves, in some form or other, to nourish their tissues, is so general and so firmly established, that, hitherto, any new argument in its favour has been considered unnecessary ; the obvious difference in the growth of plants, according to the known abundance or scarcity of *humus* in the soil, seemed to afford incontestible proof of its correctness. Yet this position, when submitted to strict examination, is found to be untenable, and it becomes evident, from most conclusive proofs, that *humus*, in the form in which it exists in the soil, does not yield the smallest nourishment to plants.”

This view he substantiates by a reference to the facts, that the *humic acid* of chemists, the *humus* of vegetable physiologists, when first precipitated, requires 2500 times its weight of water to cause it to undergo solution, and only when newly-precipitated is it soluble at all, becoming completely insoluble when dried in the air, or when exposed in a moist state to a freezing temperature; so that both the cold of winter and the heat of summer are destructive of the solubility of humic acid, and, at the same time, of its capability of being assimilated by plants.

This circumstance has not been unnoticed by vegetable physiologists, and they have supposed that the lime, or the different alkalis found in the ashes of vegetables, render soluble the humic acid and fit it for the process of assimilation. He afterwards goes on to shew, by a reference to the constitution of vegetables, that, although alkalies and alkaline earths do exist in sufficient quantities in different soils to form soluble compounds with humic acid, and the most soluble of these is the humate of lime, yet this will not account for the amount of carbon met with in the plant, not even if the most favourable circumstances are taken into consideration by which humic acid is received, namely, the agency of rain-water.

As to manure.—“ It is not denied that manure exercises an influence upon the development of plants ; but it may be affirmed with positive certainty, that it neither serves for the production of carbon, nor has any influence upon it, because we find that the quantity of carbon produced by manured lands is not greater than that yielded by lands which are not manured. The carbon, then, must be derived from other sources, and it can only be extracted from the atmosphere.” By calculation is then demonstrated the amount of carbonic acid given out during the respiration of man and animals, leaving unnoticed the many other sources whence this gaseous compound is also derived ; and from this is proved the necessity of those beautiful reciprocating laws that obtain in the economy of nature, which are proofs of order and design in Him by whom all things were made and continue to exist. “ The life of plants is closely connected with that of animals, in a most simple manner, and for a wise and sublime purpose.”

The essential constituents of plants having been demonstrated to be the elements of water with carbon, the inquiry arises,

“ Is the quantity of carbonic acid in the atmosphere, which scarcely amounts to one-tenth per cent, sufficient for the wants of the whole vegetation on the surface of the earth,—is it possible that the carbon of plants has its origin from the air alone? This question is very easily answered. It is known that a column of air of 2216.66 lbs. weight, Hessian measure, rests upon every square Hessian foot of the surface of the earth; the diameter of the earth and its superficies are likewise known, so that the weight of the atmosphere can be calculated with the greatest exactness. The thousandth part of this is carbonic acid, which contains upwards of 27 per cent. of carbon. By this calculation it can be shewn, that the atmosphere contains 3000 billion Hessian lbs. of carbon; a quantity which amounts to more than the weight of all the plants, and of all the strata of minerals and *broem* coal, which exist upon the earth. This carbon is, therefore, more than adequate to all the purposes for which it is required.”

The opinion, certainly, is not new, that the carbonic acid of the air serves for the nutriment of plants, and that the carbon is assimilated by them—the leaves and the roots being the organs by which it is taken up; in the former, the change so necessary to the well-being of organic nature taking place. This has been admitted, defended, and argued for by the soundest, most intelligent natural philosophers. Some, however, have disputed it; and others think the theory quite refuted, because plants placed in sulphur, canara, marble, or sulphate of barytes, and sprinkled with water containing carbonic acid, did not grow: but many conditions are necessary for the growth of plants as well as animals, and although the essential elements of plants are hydrogen, oxygen, and carbon, yet they appear to want certain metallic compounds, so as to continue in health, as animals do common salt.

“ If we knew with certainty that there existed a substance capable, alone, of nourishing a plant, and of bringing it to maturity, we might be led to a knowledge of the conditions necessary to the life of all plants, by studying its characters and composition. If humus were such a substance, it would have precisely the same value as the only single food which nature has produced for animal organization, namely milk. (*Prout*).”

Our author next proceeds to the consideration of the origin and action of humus, and shews that this is not indispensable for plants. No primitive humus could have existed, since it is universally admitted, that this principle arises from the decay of woody fibre; and plants must, then, have preceded it.

The sources and assimilation of hydrogen and nitrogen are next dwelt upon, and the necessity of certain inorganic constituents in plants pointed out.

“ Carbonic acid, water, and ammonia, are necessary for the existence of plants, because they contain the elements from which their organs are formed; but other substances are likewise requisite for the formation of certain organs destined for special functions peculiar to each family of plants. Plants obtain these substances from inorganic nature . . . . . Many of these constituents vary according to the soil in which plants grow, but a certain number of them are indispensable to their development . . . . . It is quite impossible to mature a plant of the family of *Gramineæ*, or of the *Equisetaceæ*, the



solid frame-work of which contains silicate of potash, without silicic acid and potash; or plant of the genus *Oxalis* without potash; or saline plants, such as the salt-worts (*Salsola* and *Salicornia*) without chloride of sodium, or at least some salt of similar properties. All seeds of the *Gramineæ* contain phosphate of magnesia . . . . . in combination with ammonia. It is contained in the outer horny husk . . . . . The bran of flour contains the greatest quantity of it. It is this salt which forms large crystalline concretions, often amounting to several pounds in weight, in the *cæcum* of horses belonging to millers . . . . . Most plants, perhaps all of them, contain organic acids of very different composition and properties, all of which are in combination with bases, such as potash, soda, lime, or magnesia. These bases evidently regulate the formation of the acids, for the diminution of the one is followed by a decrease of the other . . . The leaves contain more inorganic matters than the branches, and the branches more than the stem . . . . All plants yield by incineration ashes containing carbonic acid; all, therefore, must contain salts of an organic kind . . . Since, then, in the different families of plants, various kind of substances are found, it cannot be supposed that their presence is the result of accident? Certainly not."

The art of culture is next entered upon, with the influence of food, light, and manure on plants; the rotation of crops, &c. But we have hardly commenced our review, ere we are warned to stop. All we can do is cordially to recommend the work to the attentive study of our readers.

Our object has been to shew the intimate connexion between agriculture and chemistry, and to couple with these the science of botany, all of which should constitute parts of the education of the veterinary student: by and by, they will be; and already an important step, and at which we rejoice, has been taken towards it at our alma mater. We fear, however, that it would be too severe a task for one individual to undertake the whole of these divisions, adding to them materia medica and therapeutics, which, of themselves, constitutes an essential, nay, indispensable part of veterinary instruction. We can see important sub-divisions, alike valuable to the teacher and the taught, and we will patiently wait the result of time. Surely, there is no union so profitable to the individual and to the community as that of veterinary medicine with scientific agriculture and its dependencies.

W. J. T. M.

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ILLUSTRATIONS OF THE BREEDS OF THE DOMESTIC ANIMALS OF THE BRITISH ISLANDS: Parts IV and V. By DAVID LOW, *Esq.*, *Professor of Agriculture in the University of Edinburgh.*

WE return with undiminished pleasure to a review of this splendid national work. A history is given of the ox tribe—the bisons inhabiting both the old and new continents, and distinguished by round, smooth horns, and a musky odour which exhales from the skin—the buffaloes characterized by angular horns, and a fainter odour of musk, and being natives of the warmer regions of Asia and Africa—and the Taurine group comprehending the common ox

and his different races. We will pass over the long but interesting account of the two former.

The *Bos Taurus* has been domesticated from the earliest records of human society. From the earliest period his patient docility has been devoted to the service of man. He bore their burdens—he tilled the earth—he was the medium of traffic—his flesh was permitted to be eaten under certain restrictions, and his image was stamped on the coin of the country. He was an object of adoration among the people of the east, and he entered largely into the mythological systems of Greece and Rome. From his docility and his usefulness a certain respect was and still continues to be paid to him. The Jewish law forbade to muzzle the ox when he trod out the corn. Much real humanity entered into the feelings of the Roman agriculturist with respect to his docile assistant. The length of the furrow was limited to 120 paces, and a little time for breathing was allowed at the end of each furrow. The yoke was required by the rustic law to be shifted at each turning, that the beast should not be galled. Wantonly to destroy an ox was considered as a capital crime, and the criminal dealt with accordingly. The Celtic nations possessed the same sentiments, mixing deeply with their religious feelings.

The author traces the history of the ox and the cow amidst a variety of nations. The feeling of humanity which he evinces is highly creditable to him, and he most satisfactorily proves that reason and justice should teach us to avoid the infliction of unnecessary pain on this, or, in fact, on any other animal.

He now turns from the oxen of distant countries to those whose economical uses are so important in the civilized portions of Europe. They have all the common characters which we assign to them as a species, but they differ materially in their temperament, form, and uses, according to the physical condition of the countries in which they are reared, and the artificial treatment to which they are subjected. Wherever food is abundant, the ox becomes enlarged in bulk; wherever food is deficient, his size and strength become less. Art, by supplying cultivated food, may remedy the effects of occasional scarcity; but the larger breeds are always formed in countries of abundant herbage. In the British Island this law is strongly marked. On the more elevated and barren parts of the country, the oxen are of small stature; but their form becomes enlarged when, in lower and richer ground, some artificial food is added to the natural. Thus it is that the ox of the Sutherland mountains, and he of the Yorkshire vales, present to the eye such a difference of size and form, that we might almost hold them to be distinct species.

There are two general classes of breeds, dependent on their being inhabitants of the mountains or the plains—the less fertile and the richer countries. According to this we may class them from the

smaller breeds of Wales or Scotland, to those of Durham and of Hereford, with the intermediate classes, still suited to their respective localities, the Galloways, the Angus, and the beautiful Devons.

But there is also another spirit at work—not only the power of nutrition, but that of hereditary predisposition, so as to produce varieties of almost every kind of form and property and quality, and the character of the breed permanently stamped upon it, after a few generations. Hence arose the noblest of our breeds—the noblest of the breeds of cattle which the world contains. But we must leave this fascinating subject, and enter more into a dry detail of facts. The first portrait which is given in the present number is that of a cow of the Zetland breed, or natives of the Zetland Islands. They are small, fatten quickly on better than their native pasture, and their flesh is then excellent. Their milk is good, and yielded in a fair quantity.

Next comes the Kerry or poor-man's cow. She is a native of the mountainous county of Kerry—hardy, and capable of subsisting on the most scanty fare, yet capable of accumulating fat to an extraordinary degree, and in the most valuable parts. The peculiar value of the Kerry breed, however, is the quantity of excellent milk which they yield when compared with the smallness of their size and the scantiness of their fare.

Mr. Low too truly complains that “this fine little breed has been greatly neglected—scarcely any means have been used to produce a progressive development of form by supplying proper nourishment to the parents or their young, and no general care has been bestowed on the purity of the stock. In almost every part of Ireland the breed has been crossed with long-horns. A great proportion of the cows known by the name of Kerries are the result of crosses of this kind. They have deviated in a greater or less degree from the native type, and almost always for the worse.” The plate of one from the stock of the late Bishop of Killaloe is a splendid exception to this censure; and the Kerry cows—proper care being taken in the selection of the stock—may be advantageously crossed with the short-horns now established in every part of Ireland.

The artist quickly returns to the Scottish cattle, and gives an admirable portrait of one of Mr. Watson's breed. The writer of this hasty sketch was at the cattle show at Kelso, some years ago, and there saw, for the first time, some of the pride of the Angus cattle, as improved by Mr. Watson. He would have gone as far again for such another treat.

The Angus cattle constitute an intermediate breed between the races of the mountains and those of the richer plains. They originally descended from the Galloways, and there is still a considerable resemblance between the breeds; but they are less compact in form than the Galloways, and have not the depth of rib so characteristic

of the latter breed, yet, generally speaking, perhaps from difference of pasture, and careful selection and culture, they look and feel more kindly than the Galloways, and are somewhat better milkers.

Mr. Low has given the admirer of his works an opportunity of comparing together the Angus and Galloway cattle, for the next plate contains the portraits of two beautiful Galloways. We will leave the reader to admire, as he will, the form and general character of each, and to make himself acquainted with their respective peculiarities.

In the 5th number of the Illustrations, the artist returns to the breed of sheep; and, first, he again transports us to Ireland, and gives us a companion to the Kerry cattle in the Kerry breed of sheep. The account of them is introduced by a sketch of the general character of the native Irish sheep. Of the Kerry sheep he says but little; and if we are to give credit to the faithfulness of his pencil, they deserve but little to be said of them. They are half-starved animals, straying in wild flocks—travelling from farm to farm, almost unnoticed and unowned—let loose on the bounty of Providence and the toleration of the neighbourhood.

We pass on to the forest-breeds of England, and, first of all, we find a far more splendid delineation than the animal deserves—the portrait, however, we can say from cherished recollections of early days, is strictly accurate—of the Exmoor breed. Mr. Low very graphically says of them—“They are exceedingly wild and restless—they are reared in their native pastures of heath, and fattened in the low country. They will remain feeding in the valley in winter, but no sooner does the vegetation of spring commence, than they seek to regain their native pastures, and endeavour to break through the fences opposed to their return. Even the crosses retain this instinct of the race. These sheep produce mutton which bears a high price, and are constitutionally well suited to the barren undrained district to which they are indigenous; but yet they are an unprofitable race of sheep, from their small size, defective form, and, above all, their wild and restless temper.” The immediate profit from crossing them has been so great, that the pure breed is rapidly diminishing in numbers, and will soon become extinct.

To these follow the black-faced heath breed, extending from the heathy lands of Yorkshire and Lancashire to the Highlands of Scotland, and the Islands of Orkney and Zetland. A very long and satisfactory account of these sheep and of their former and present character is given.

The number is closed by an admirable portrait of that useful and beautiful animal the Cheviot sheep. It is traced from a very early period to its present improved state, and the account which is given is accurate and highly interesting.

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